THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK,

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

Vol. VII.—No. 9.] 4th mo. (April) 15th, 1843. [Whole No. 99.

JOSIAH TATUM,

PROPRIETOR AND PUBLISHER,

No. 50 North Fourth Street,

PHILADELPHIA.

Edited by the Proprietor and James Pedder.

Price one dollar per year.—For conditions see last page.

For the Farmers' Cabinet.

Irrigation.

I HAVE long been of the mind, that farmers in this country, were not generally aware of the great benefits to be derived in many situations, from throwing, at a trifling expense, the water of their small streams over their grass lands. In the quarters of the old world, irrigation is practised to great extent. We all have heard of the wonderful fertility communicated to the lands adjacent to the Nile, by the overflowing of its waters. In Cairo there is a canal called Khalis, which is opened when the Nile is high enough, and from that the water is conveyed into reservoirs and cisterns, and is afterwards distributed into the fields and gardens, as occasions require. Wicker baskets, lined with leather, as stated by some modern travellers, are sometimes used in Egypt for raising the water, which is swung over the banks of the Nile by means of a rope, worked by the men, and emptied into canals, which convey it to the places where it is needed for irrigation. In China, this process has for ages been made use of, for increasing the fertility of their lands. "The waters of the chief rivers of the north of Italy, such as the Po, the Adige, the Tagliamento, and of all the minor streams, are employed in irrigation. There is no other country which possesses an extent of rich water meadows, equal to that of the Lombards. The entire country from Venice to Turin, may be said to be formed into one great water meadow; yet the irrigating system is not confined to grass lands. The water is conveyed into the hollows between the ridges, in corn lands—into the low lands, where rice is cultivated, and around the roots of vines. From Italy, the practice extended into the South of France—into Spain, and then into Britain. In the States of Lombardy, the water of all the rivers belong to the State; in those of Venice, the government extends its claims to that of the smaller streams, and even to collections of *rain water!* So highly, for the use of the cultivator, is water of every kind valued, in the north of Italy. It is necessary, therefore, in Lombardy, to purchase from the State, the water taken from the river; this may be taken by means of a canal, through any person's grounds, the government merely requiring the payment of the value of the land to the proprietor, and restraining him from carrying his canal through a garden, or within a certain distance of a mansion. The water is sold by the government at a certain rate, which is regulated by the size of the sluice, and the time the run of water is used; this is either by the hour, half hour, or quarter, or by so many days, at certain periods of the year: the right to these runs of water, is regularly sold, like other property. Arthur Young gives an account of the sale of an hour's run of water through a sluice, near Turin, which produced in 1778, 1500 livres. The rent of the irrigated lands in the north of Italy is, upon an average, more than one-third greater, than the same description of land not watered.

"In Bengal, wells are dug in the highest part of their fields, and from these, by means of bullocks and a rope over a pulley, water is raised in buckets and conveyed in little channels to every part of the field. No attempts at cultivation are here made, without the assistance of water, obtained by some mode or other. The art of irrigation was not confined to the old world. The Mexicans practised it long before the days of Columbus. They collected the mountain torrents, and conducted their waters to their lands in proper channels, with much care and address."—*See Farmer's Register,—May*, 1842.

In England, this mode of turning their streams to the advantage of their agriculture, is very extensively practised. Some of their finest pasture lands owe their productiveness to this artificial application of water, nature's grand medium of fertility.

They think no water so clear, or so full of impurities, as not to be useful for the purposes of irrigation. Sir Humphrey Davy thinks that in general, "those waters that breed the best fish, are the best fitted for watering meadows: but most of the benefits of irrigation may be derived from any kind of water." In the vicinity of Edinburgh, the Craigintinny meadows are made vastly productive by throwing over them the water from the city, which carries along with it in a state of semi-solution, the rich matter it has collected in its passage. "The grass is let every year by public sale, in small patches of a quarter of an acre, and upwards, and generally brings from £24 to £30 per acre, per annum. In 1826, part of the Earl of Moray's meadow fetched £57 per acre, per annum!"

In an address delivered before the Philadelphia Agricultural Society, in 1822, by N. Biddle, Esq., he states that "irrigation is probably, the most profitable of all modes of culture. Whenever the situation of land will permit its being covered with a stream of water, the direct nourishment to the plant, —the minute subdivision of the soil,—and the deposit left by the water, all combine to produce an amazing fertility. In Lombardy, for instance, the irrigated meadows afford four abundant crops of grass. In the dry climate of Spain, they are still more productive. It could scarcely be believed, were it not vouched by the personal observation of Arthur Young himself, that in the watered fields of Valencia, there are actually cut, four, five, six and seven crops of lucerne, from two and a half to three feet in height, and yielding *ten* tons of grass on an acre, at each cutting; so that on a moderate average, an acre yields no less than *fifty* tons of grass, and when broken up, gives three crops in the course of a year! It is not wonderful, then, that in that country the greatest efforts have been made, to water their fields—that reservoirs have been constructed, canals cut, wells dug, and machines erected for raising water from the rivers, and that whole rivers themselves, instead of hastening to the ocean, have been made to pause, and deposit their extraordinary fertility."

In the vicinity of Philadelphia, and in Jersey, I am aware of several successful attempts to turn the streams to this useful purpose. The product of the land is thus greatly increased, and at a trifling expense; yet in passing through the country, how numerous are the situations which offer every facility for taking advantage of this great, but too generally unappreciated, privilege.

Z. Y.

Woodbury, N. J.

For the Farmers' Cabinet

Lime and Magnesia.

To the Editors,—Owing to circumstances needless to mention, I have not for a few months past, enjoyed the perusal of your publication. The other day, however, a friend read to me an article contained in your number of last month, from the pen of Isaac Wayne Van Leer, by which I learn that the lime and magnesia question is still under discussion. It seems now that the war is not against magnesia alone, but lime also is boldly assailed. There appears also in your number for the present month, a reply to the candidate for the "golden plough," from a "Lancaster County Farmer," that might, perchance, have a slight effect to dim his "golden visions." Though sufficiently answered in some points, perhaps I may be allowed to present a few more facts and considerations, to your anti-lime and anti-magnesian friends.

Now, I am one who would neither have agriculturists so devoted to lime, as to neglect animal and other manures, nor so taken with the good qualities of the latter, as to despise the aid of the former; and I trust the day is at hand, when the comparative values, or rather, the virtues and effects of both and all, will be well understood. The recent work of Professor Liebig, is well calculated to form an era in the science of agricultural chemistry. Emanating from a man distinguished for scientific attainments, and its conclusions drawn and demonstrated according to the correct rules for scientific investigation, its statements merit the fullest confidence. It comes also from a foreign country, where *our Cabinet* and its discussions, perhaps seldom appear, and may therefore be fairly regarded as disinterested and unprejudiced.

Let us then go into a brief examination of these *momentous* questions upon the principles therein contained.

The uses of the alkalies and alkaline earths, soda, potash, lime and magnesia, may be considered as two-fold. 1st. As an actual food for plants, being taken up by their roots and incorporated into their substance, in a state of combination with organic, or other acids. 2nd. As component parts of the soil, sometimes improving its mechanical texture or consistency, but mainly operating by their alkaline properties to check the injurious *putrefaction*, and promote the healthy *decay* of vegetable matter, and the excrements of plants contained in the soil; thus yielding, as a result of this healthy decay, a constant supply of carbonic acid gas to the roots of growing plants.

In regard to the first, the following extracts from the work just named, may be placed before those who say magnesia acts as a *poison* to vegetation.

1st. "Phosphate of magnesia, in combination with ammonia, is an invariable constituent of the seeds of all kinds of grasses. It is contained in the outer horny husk, and is introduced into bread along with the flour, and also into beer. The bran of flour contains the greatest quantity of it. It is this salt which forms large crystalline concretions, often amounting to several pounds in weight, in the cœcum of horses belonging to millers."....."Most plants, perhaps all of them, contain organic acids of very different composition and properties, all of which are in combination with bases, such as potash, soda, lime, or magnesia."

2nd. In explanation of the reason why wheat will not grow in a soil of humus alone, Liebig says, "The cause is this,—the strength of the stalk is due to the silicate of potash, and the corn requires phosphate of magnesia, neither of which substances a soil of humus can afford, since it does not contain them; the plant may, indeed, under such circumstances become an herb, but will not bear fruit."

3d. "Most seeds contain certain quantities of phosphates. In the seeds of different kinds of corn, particularly, there is *abundance* of the phosphate of magnesia." Again, "It is evident the seeds of corn *could not be formed* without phosphate of magnesia, which is one of their invariable constituents."

"The ashes both of peat and coal, contain in general magnesia; hence their value as an ingredient of prepared night soil. When magnesia is not present it will be necessary to add some magnesian limestone or epsom salts." "Phosphates of magnesia and ammonia, form the principal inorganic constituents of the potatoe."

I might continue the extracts; but these are sufficient to show, how very "hurtful" lime and magnesia must be to plants when taken up as food; the following will show our writer's opinion of its usefulness in the soil.

"In a soil to which air has no access, or at most, but very little, the remains of animals and vegetables do not decay, for they can only do so, when freely supplied with oxygen; but they undergo *putrefaction*, for which air is present in sufficient quantity. Putrefaction is known to be a most powerful deoxidizing process, the influence of which, extends to all surrounding bodies, even to the roots and the plants themselves."..... "The frequent renewal of air by ploughing and the preparation of the soil, *especially* its contact with alkaline metalic oxids,"—of which magnesia is one,—"the ashes of brown coal, burnt lime, or limestone, change the putrefaction of its organic constituents, into a pure process of oxidation; and from the moment at which all the organic matter existing in a soil, enters into a state of oxidation or decay, its fertility is increased."

In speaking of the decay of the excrements of vegetables, which when they accumulate in a soil act injuriously, and frequently to the exclusion, or "running out," of the plant which exudes them, he says: "The quickness with which this decay of the excrements of plants proceeds, depends upon the composition of the soil, and on its greater or less porosity. It will take place very quickly in a calcareous soil," (or I will add, a soil impregnated with magnesia:) "for the power of organic excrements to attract oxygen and to putrify," (decay*) "is increased by contact with the alkaline constituents."

The gentleman of the "golden plough," seems to view lime and magnesia, only in the light first above considered, when he asks, would it be advised "to apply 100 bushels of plaster to the acre?" And, by the way, if he accounts for the action of plaster upon clover, as his arguing would seem to indicate, solely by its affording, in itself, a food for that plant, he is there, at least, far behind the times. Tell him that its use is to combine with, and fix the ammonia of the rain water, &c., and that a small quantity upon the surface is sufficient for the time being, to answer that end; and let him learn above, that "alkaline constituents" should pervade all parts of a soil, and he will himself perceive why more lime is required than gypsum.

As ingredients for the improvement of the soil itself, much larger quantities of these alkaline earths may be necessary, than the plants require for food. But what is a large quantity? Our friend speaks of the best English soils containing but one or two per cent. of lime, and calls that a small quantity. Now upon calculation, it will be found that in a soil six inches deep, one per cent., considering the lime as heavy as the other earthy ingredients of the soil, is equivalent to about 175 bushels to the acre, and of course, two per cent. is 350 bushels to the acre; which is at least not so small as "50 bushels."

---

* It is plain that the proper distinction explained in the work, between "putrefaction" and "decay," was here overlooked; "decay" being evidently in this case alluded to.

The action of lime and magnesia, as regards the promotion of decay, is precisely similar; the only difference being, that magnesia is more caustic than lime,—takes longer to carbonate, and is less soluble in water. Both lime and magnesia, when carbonated, possess in a degree, alkaline properties, and act in the same manner, but with less intensity, as they do in the caustic state.

The magnesia being longer in carbonating, perhaps more alkaline when carbonated, and less liable to be dissolved in water, and washed from the soil by rain, accounts for the experience of a neighbour, who told me he could see where a certain lime, whose stone contained from 30 to 40 per cent. of carbonate of magnesia, was put on 20 years ago, while the effect of another, containing no magnesia, spread five years since, had entirely disappeared.

That magnesian lime spread upon grass in considerable quantity, will, owing to its highly caustic nature, kill the grass in contact with it, argues nothing but its superior alkaline properties above mentioned. The same quantity or more, if incorporated completely with the soil, or spread in successive small portions at different times, would show no such effect, but would produce a soil, other things being the same, susceptible of the greatest degree of fertility. A sufficient quantity of ashes spread upon grass, will act in the same way as too much at a time of magnesian lime; yet who says that ashes are not most valuable?

If then the virtues of pure lime, lie in its alkaline properties—and magnesia is more alkaline than lime,—is it not consistent with the plainest common sense to declare, that less of the latter will answer, in place of the former?

Again, when we consider the general economy of nature, it is no far drawn inference to conclude, that whatever ingredients we invariably find in a fertile soil, are essential to its constitution; and if absent, must be supplied.

Liebig has given us the analysis of a considerable number of soils, amongst which, there is not one noted as being very fertile, but it contains a considerable portion of lime and magnesia. I will extract from some which bear particularly upon our question. The parts are stated in hundredths and decimals of hundredths, which in most I have reduced to bushels per acre. One soil contained lime 0.038, magnesia 0.147 or 25 bushels to the acre, potash and soda 0.09, and it is remarked: "This soil was much improved by manuring with lime and ashes," evidently to supply the lime and potash. Another soil contained lime 1.028, or 175 bushels to the acre; magnesia only a trace. In the subsoil of the same, was lime 0.296, magnesia .095, or about 17 bushels to the acre. The remarks are; "This soil produces luxuriant crops of lucerne and sainfoin, as well as all other plants whose roots penetrate deeply into the ground. The reason is apparent. The subsoil contains magnesia, which is wanting in the surface soil."

Another, a "very fertile soil," to which no manure had ever been applied, gave lime 5.88, or 1000 bushels to the acre, magnesia 0.84, or 147 bushels to the acre. Another very fertile field gave lime 1.2, or 209 bushels per acre, magnesia 1.04, or 175 bushels per acre. Another soil, "remarkable for its fertility, having never been manured or allowed to lie fallow, and yet has produced for the last 160 years, the most beautiful crops, contains lime 0.927, or 170 bushels to the acre, magnesia 1.16, or 200 bushels to the acre." Surely in 160 years, the poisonous qualities of 200 bushels per acre, of caustic magnesia, had time to show themselves! Yes, and they have shown themselves, in preventing the soil from being impaired in its fertility, by the accumulation of undecomposed and putrifying vegetable excrements. Another "very fertile" surface soil, gave carbonate of lime 3.77, or 665 bushels to the acre, carbonate of magnesia 4.066, or 700 bushels to the acre, while its subsoil gave 3000 bushels of carbonate of lime and 2000 carbonate of magnesia to the acre. Lastly, the "surface soil of alluvial land in Ohio, remarkable for its great fertility," gave lime 0.619, or 100 bushels to the acre, magnesia 1.024, or 175 bushels to the acre. What a pity, the enterprising emigrant to the inexhaustible fertility of the West, can not escape from magnesia!!

I will just suggest to friend Van Leer, that if he will have his soils analysed, he will not only find carbonate of lime, as hinted by the L. C. Farmer, but magnesia also, in all his good soils, and some other cause independent of these, to account for the inferior fertility of some limed parts of his land. And if he had just said what kind of rocks were in his friend's field, it might have helped one to guess what it was that had "run out," since he thinks it was not the lime.

In conclusion, let every farmer whose land is not calcareous, give it lime or limestone; if not magnesian, give it magnesian limestone, lime, or epsom salts; give it plaster to fix the ammonia of the atmosphere, and to retain that of the soil and its contents; give it potash in the form of ashes, to make the wheat stand stiff, and glaze the corn-

stalks; give it animal and vegetable manures, to furnish ammonia, the phosphates and carbonic acid,—cultivate well, "and leave the rest to Heaven."

A DELAWARIAN.

Mill-creek Hundred, Second mo. 23d, 1843.

For the Farmers' Cabinet.

Rust in Wheat.

MESSRS. EDITORS,—Let me draw your attention to a paper containing observations on a wheat crop, communicated to the Philadelphia Agricultural Society, by Mr. David Comfort, a practical agriculturist, to whom the community are much indebted for various useful and interesting experiments. Mr. Comfort is also the person who has taken premiums for several seasons, of the Horticultural Society, for the growth of the Valparaiso squash; and is in all respects, a person of information and veracity.

He relates, at page 343 of the second vol. of the Cabinet, that "about the time when the wheat shot into ear, and while in blossom, owing to much damp and foggy weather, the leaf was struck with the red rust, and the straw with black mildew, in consequence of which the grain was shrivelled and light, at the common time of harvesting. The timothy grass growing amongst it, was now coming out in ear, and the heads were generally from nine to eleven, and some twelve and thirteen inches long; I therefore resolved to let the wheat stand, for the timothy to ripen. I gathered in my other wheat, and my neighbours gathered theirs, mildewed and rusty, with a light grain. In four or five days after I had gathered my other grain, I visited my wheat and timothy, and found it doing well; in five or six days more I found it improving finely; and in sixteen days after common harvesting was over, I cut my wheat and timothy together in fine condition; the grain of the wheat had improved 20 per cent.; the mildew and rust were gone, and the straw had a fine yellow appearance, not one head having fallen to the ground. The miller who ground this wheat for family use, informed me, that it was the best he had seen that season; and the miller who bought it, gave an advanced price, stating it was the best white wheat he had obtained that season. My desire is, if farmers are annoyed with mildew and rust, that they try the experiment and publish the result; although this wheat stood sixteen days longer than usual harvest, there was no shattering or loss of grain, and it appeared just the proper time for gathering it."

Now, not having before noticed the above communication, I am induced to inquire, if any of your readers have had the opportunity of testing its application to the case in point? One thing is pretty certain; when the crop is so far gone with the rust and mildew, it might be allowed to stand without the fear of being further injured by longer exposure; and it is easy to perceive that no loss will accrue from shattering, as the grains of wheat must still remain comparatively thin, and not liable to burst their envelope. There is just one remark which I feel inclined to make, without, however, offering any discredit to the account; it is this—there is no ground to expect that the straw of the crop, once so completely infected with the black mildew, would ever recover so far as to become of a fine "yellow appearance;" this must, I presume, be understood as speaking comparatively; for I have never yet found, but that the straw of a mildewed crop of wheat, has been radically injured, so as never entirely to recover its pristine vigor or colour, the hue still remaining pale and sickly, with no *glaze*, as indicative of health in uninfected crops. It is quite sufficient, if by permitting the crop to stand, it improve "20 per cent.," and be the best sample sent to the mill in a season of general rust and mildew, and no more ought to be expected; for rust is not the *cause* of disease, but the *effect*—the *cause* operating to the deterioration of the crop, perhaps long before the *effect* was visible, and inflicting an injury that cannot be entirely removed by any after process. Still the communication is extremely valuable, inasmuch as it is calculated to set people to thinking and experimenting—the chief use of the very numerous agricultural publications that are springing up around us, and to all which, I wish "good speed."

H. E.

Delaware county.

HE is a public benefactor who, by the prudent and skilful outlay of his money in bettering its condition, shall make a single field yield permanently a double crop: and he who does this over a square mile, virtually adds a square mile to the national territory—nay, he does more, he doubles to this extent the territorial resources of the country, without giving the state any larger actual area to defend. All hail, then, to the improvers of the soil! Health and long life be their fortune—may their hearts be light and their purses heavy—may their dreams be few and pleasant, and their sleep the sweet repose of the weary—may they see the fruits of their own labour, and may their sons reap still heavier harvests.—*Blackwood's Magazine.*

For the Farmers' Cabinet.

Peach Trees.

Messrs. Editors,—In corroboration of the doctrine professed by your correspondent, A. T. B., on the peach worm and the disease called the *yellows*—see page 181, Number for January—I would call the attention of your readers to an interesting article on the same subject, by Mr. M. T. Kirkbride, of Morrisville, Bucks county, at page 347, second volume of the Cabinet, in which, after describing the peach fly, and marking very minutely the mode in which it deposits its eggs, &c.; the way in which the worms commit their ravages, and pointing out an effectual mode of entirely preventing all these evils, by applying slacked lime to the surface of the ground, and raising it high enough around the body of the tree, to prevent the rains from washing any earth against the tree, as this would afford a lodgement and protection for the eggs; adding, that he has found a peck of lime sufficient for trees two or three years old, he concludes with this remarkable sentence:

"Although I have kept the fly at bay and preserved many trees from its ravages, yet we have not now a peach tree on the farm; that fatal disease, the *yellows*, cut them all off a few years since, and invariably takes them *now*, at one or two years old." Now I know not, if any thing can be added to render more evident the fact, that the worm is only the effect of disease, and that *without* its aid, the tree would be as effectually destroyed as it now is *by* it, according to the general belief.

Mr. Kirkbride has it in his power to interest your readers on another subject of very great importance, namely, an experiment which he has been conducting for several years, on a cherry tree standing near his house. If I understood aright, this tree had never borne fruit, although the blossoming was regular and particularly healthy; when, I think, three years ago, he took the opportunity of scattering over the blossoms, while the dew was on them, a quantity of pulverized plaster, standing on a ladder above the tree; the result was, a plentiful crop of fruit. The next year the experiment was omitted, when not a single fruit set. The last year was to decide the question by another application of plaster, but whether that took place, I know not—would Mr. Kirkbride be pleased to inform us, and favour us with his opinion of the matter? Also, say whether he considers the effect to arise from the chemical or mechanical action of the plaster? Possibly from the latter, screening the blossoms from the effects of a piercing atmosphere, by covering them with a coat of plaster. At all events, an article on the subject from such an enlightened friend of agriculture, would be highly esteemed by every reader of the Cabinet, especially by one who has the honour of his

Acquaintance.

March 15th, 1843.

Sugar in the Stalks of Maize.—Dr. Pallas, principal physician of the military hospital of St. Omers, addressed to the French Academy of Science, during the past summer, a memoir, in which he attempts to establish the following propositions,—viz: 1st, that the stems of Indian corn contain little or no sugar, before flowering: 2nd, that just at the epoch of flowering, only a mere trace of sugar can be extracted from them: 3d, that the same stems, from 20 to 25 days after flowering, while the grain is yet milky, contain one per cent. of crystallizable sugar: 4th, that still later, when the grain is perfectly ripe, the stems yield two per cent. of coarse sugar, besides four per cent. of rich molasses. The commission to whom this memoir was referred, (M. Biot, reporter,) however, very properly discredits these results, so contradictory not only to our theoretical views, but also to all former observations; as, for example, those of Prof. Burger, who affirms that the sugar is most abundant in the juice of the stem of maize, immediately after the expansion of the flowers, and that it diminishes as the grain is matured. The commission states that the experiments of Dr. Pallas on this subject, were so loosely conducted as to afford no results worthy of confidence.—*Silliman's Journal, for Jan.* 1843.

An Aphorism.—A Tradesman may incur indebtedness in the way of his business; for to enable a man to *give* credit, it is reasonable that he *receive* it. A farmer is justified in debiting his farm for what are justly termed lasting improvements—such as the purchase of manures, draining, extra cultivation, and the erection of necessary buildings; but no person is justified in going into debt for expensive food or clothing, in such times as the present; much more reprehensible would it be for him to indulge in expensive amusement of any kind whatever. Z.

Every man has in his own life follies enough—in his own mind troubles enough—in the performance of his duties, deficiencies enough—in his fortune, evils enough—without being curious about the affairs of others.

For the Farmers' Cabinet.

The Corn crop in Succession.

Messrs. Editors,—I have perused the "Dialogue founded on fact," in the Feb. number of the Cabinet, with great interest; for although I may fall under the denomination of those who find it easy to direct the labours of the agriculturist, themselves being unengaged in the practice—for I am in trade in a crowded part of the city—yet a great portion of my life having been spent in the active pursuits of husbandry, and as I continue to partake of its pleasures, by the perusal of the agricultural publications of the day, I am almost inclined to believe, that from the position in which I now stand, I am enabled to take a view, retrospective as well as prospective, favourable, rather than otherwise, to the developement of the science—just as the man who stands by, and looks on while others labour, is admitted to possess the power of discrimination, above those who are engaged in the manual part of the business, if our practical friends will allow me to make use of such invidious reasoning.

But my present purpose is to say, I am pleased with the mode proposed to raise corn every year on the same land, and have no doubt that by such means it might be accomplished with success. And here, if I may be allowed to theorise a little, I would ask, whether a plan might not be adopted, by which the manuring by foreign substances may be done away, and the crop itself be made to perform that office, with little labour and less expense? I am aware that our agricultural friends will have cause to smile at the notion, and hint that it "smells of the shop;" but if they will permit the suggestion to pass for as much as it is worth, it is all I ask! Well then, at pages 125 and 364, of the sixth volume of the Cabinet, are two very interesting articles, on the power of renovation, with which nature has been endowed by the all-wise Creator; and I remember at the time when I read them, I became convinced that it must be so, according to the fitness of things, by the following extract from the French publication cited on the subject. "In observing nature unassisted, or unthwarted rather, by the hand of man, in vegetable reproduction, it is found that when the seed is ripe, it falls upon the ground; and then the plant which has produced it, sheds its leaves, or falls itself upon it in decay, and covers and protects it from the weather, until germination has commenced and the young plant is able to grow up in health and strength, and full developement, to recommence the same routine of seeding and of reproduction; and from this it follows, that in nature, every plant produces its own soil or *humus*, and the earth only serves to *bear* the plant, and not to nourish it in vegetation." Now then, to carry the theory into practice, I would propose to your correspondent, J. P., a mode of renovating the corn-crop, without the aid of any foreign article of manure, and ask his opinion of the probable success of the undertaking. I say then, so soon as the corn is ripe enough to admit of the operation, cut off the tops in the customary way and secure them for fodder; afterwards, pluck the corn in its envelope when fully ripe, and husk in the barn at leisure, preserving the husks also for cattle feed; then in the autumn, pull up the stalks, cut the roots in pieces with sharp hooks, letting them fall into the deep furrows between the beds, and upon them lay the stalks, straight and at length, and bury them by turning two furrows over them, taking one from each side of the beds; allow them so to remain during the winter, and upon these ridges plant the corn in the spring, loosening the surface-earth, if need be, but not turning up the stalks; following the mode of after-culture laid down in the Dialogue: and I would venture to predict success to the enterprise. Now, if the land is thrown into five feet beds, with one row of corn on the centre of each, I would plant at the distance of two feet only, in the rows; so that, supposing the corn-stalks to be six feet in length when pulled up, there would be three thicknesses of stalks, besides the roots and the mould adhering to them, in every row.

In the same number of the Cabinet, I find a very interesting account of Bommer's method of making manure; could not this method, whatever it may be, be adopted for the purpose of aiding in the decomposition of the stalks and roots of the corn, and adding somewhat to their quantity, and perhaps quality? if so, there would then be no objection to turning them up in the spring, by splitting the ridges with the plough and returning them before planting, with the earth sweetened and pulverized; an operation equal in value to an extra manuring; according to what is recorded by Jethro Tull, quoted from Evelyn, who says, "If the most barren earth be taken and pulverized, and exposed abroad for a year and stirred often, it will become so fertile, as to receive an exotic plant from the farthest Indies, and cause all vegetables to prosper in the most exalted degree." It is also added, "when part of a field has been better tilled only for one year, than the rest, and the after management of the whole has been alike for six or seven years, the part once only better tilled, produced a crop to

the last, with the difference very sensible at every harvest." If this be so, there is every reason to conclude, that by manuring with the corn-stalks and constantly tilling by the plough the land between the rows, corn may be grown with success for any number of years on the same soil: and I have only to regret that I am not in a capacity to put the theory to practice—will not some one of your readers devote an acre of land to the purpose, and deserve the thanks of the agricultural community? HARDWARE.

Commerce street, Philadelphia.

P. S. A friend reminds me, that my plan of burying the corn-stalk, would be to deprive the cattle in the winter-yard, of a great portion of fodder; to which I reply, not a great deal of fodder, but of much *amusement*, I admit, in picking over the stalks as they lie under their feet, covered with filth, and kicking about for months, like dried sticks. I calculate, that by burying them for manure, a tenfold profit, both of corn and good fodder, would be reaped, almost without labour and without price.

We would point the attention of our correspondent to an interesting article "on the culture of corn," as practised in Maryland, Virginia, and North Carolina, at page 151, of the second vol. of the Cabinet.—Ed.

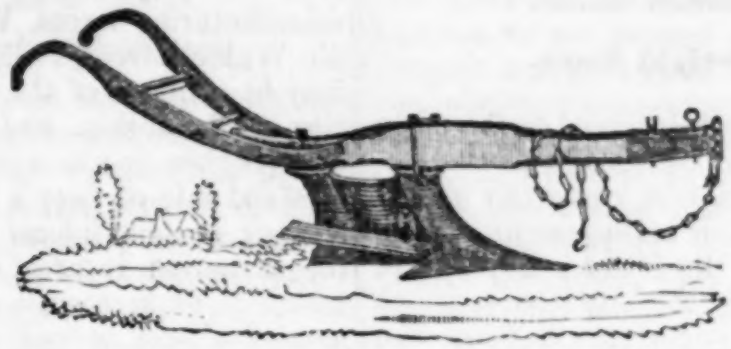
For the Farmers' Cabinet.

PLUMS.—The successful cultivation of the various kinds of plums in the neighbourhood of Salem, N. J., and the ease and cheapness with which they can be transported from thence by steamboat to market, should cause the cultivation of so valuable a fruit to be widely extended in that vicinity, and it is hoped that during the present spring, we shall see large accessions to the plum orchards of that interesting district of country. It appears that the insect which has been so destructive to plum trees in the interior of our country, has not committed its depredations within the range of the salt atmosphere of our river and bay;—perhaps they don't like salt,—if so, we may yet have a bountiful supply of good plums in the Philadelphia market, to the profit of the cultivator and the comfort of the citizen, who will not fail to purchase so palatable a fruit. A lot of 10 acres, set out with plum trees at 12 feet distance each way, would accommodate 3025 trees; which, at a peck each tree, would produce 750 bushels, and at a low wholesale price, would sell for more than a thousand dollars. The ground also might be cultivated to profit, and the trees derive a benefit from its being kept under tillage. Let us see it tried. B.

PLANTS AND SEEDS FROM THE EXPLORING EXPEDITION.—We extract from "A retrospective view of the progress of Horticulture in the U. States, during the year 1842," given in the January number of Hovey's Magazine, the following interesting article:

"An important addition has been, or ultimately will be, made to our collections by the labours of the Exploring Expedition. The number of live plants brought home, amounts to between 200 and 300 species; among them several new fruit trees from the East Indies. The collection of seeds embraces many hundred kinds, from all the various places where the Exploring Expedition touched; among them many of the ericas, from the Cape of Good Hope, and the splendid *Pinus* Lambert*iana*, and others, from the Columbia river. The seeds were placed under the direction of the National Institute at Washington, and have been liberally distributed by Dr. Pickering, the curator. For the growth of the live plants, a greenhouse, 50 feet long, has been erected on the vacant ground in the rear of the patent office. Part of this is partitioned off, as a stove or hot-house, for the tropical plants and fruits. These, when increased, will probably be distributed among the nurserymen of the country. The whole of the plants are under the charge of our correspondent, Mr. Breckenridge, from whom we hope to receive a list of their names, as well as some extracts from his original notes and remarks, on the many beautiful and grand productions of Flora, examined by him in their native habitats. This the government will not now allow him to do; but as soon as the injunction is removed, we may promise our readers some interesting articles from Mr. Breckenridge's pen."

Cows.—The following is from one of our exchanges—it is good advice. The point at which farmers are most at fault, and that for which our correspondents and hundreds of others blame them, and with reason too, is, that they overstock their farms—only half feed their animals—let skeleton cow-frames drag themselves over the premises, and complain because these dry bones do not give milk abundantly. Wherever cows are kept for the dairy, it is possible and proper—yes, it is a duty—to keep them well. This can be done. If you cannot keep four well, try two; the two, well kept, will give more income than four half-starved ones. The goodness of the cow is determined partly by her native properties—but the food also has much, and very much to do, in making her good or otherwise. Keep no more than you can feed well—very well.—*The Friend.*



For the Farmers' Cabinet.

The Subsoil Plough.

Messrs. Editors,—From all that I have heard and thought of the nature of subsoiling, I have reason to believe that the system is calculated to be of primary importance to our Western lands, by opening them to the influence of the atmosphere and enabling the crops, in a season of drought, to penetrate the earth in search of moisture, and when flooded with water, to allow it to pass away by a loosened subsoil—just as has been represented in the pages of the Cabinet. And for all the various crops, the potatoe, the cabbage, and the corn especially, this must be indeed a desideratum. But this very fact shows the necessity of the labour being well performed, and by properly constructed ploughs, which I fear is not to be expected, judging from the many plans for constructing cheap implements for the purpose, such, for instance, as the "heavy metal wheel set with slightly curved iron spikes or teeth," mentioned at page 79, vol. 5, of Cabinet, as also a harrow-tooth placed in a beam, or a simple foot of iron added, to penetrate into the subsoil a few inches only, without lifting it up and pulverizing it, which is certainly necessary, for the due performance of the operation: in short, I calculate we are not doing justice, either to the theory or the practice of subsoiling, by endeavouring to conduct the work in a way to escape expense in the labour required, or in the proper construction of the implement. I observe that it has of late been thought more advisable not to break up the subsoil, in the first instance, to a very great depth, it being natural to suppose that much of the richness of the surface-soil will go, the first year, to enrich the subsoil, and thus the benefit might not be so apparent as may have been expected; but it is feared that many of us would neglect the necessary periodical stirrings, and I therefore rather think that an effectual working at once would be likely to suit us best; at the same time, there appears a reasonableness in the suggestion.

The drawing of the Deanston subsoil plough, page 361, of the fifth volume of the Cabinet, shows it to be a formidable implement, not likely soon to make its way amongst us; its great weight, "300 lbs. of wrought iron, with a length of 12 feet and a half," which might well require the strength of six or eight horses, operating as an interdiction to its use under present circumstances. But I find that other ploughs of smaller dimensions, have been invented in this country, and that a size suitable to a single horse, is expected soon to make its appearance amongst us; these I should be glad to see, for I have a strong presentiment that the operation of subsoiling our new lands would be highly beneficial, assisting in their drainage, and correcting acidity: and this object I am now seeking, by asking information respecting the best constructed ploughs for the purpose; where they may be obtained, and at what price. Several of my neighbours also, are beginning to see the rationality of the operation, but like myself, are fearful that the labour of four or six horses, in a plough of such gigantic proportions, would be quite out of the question.

Be so good as to advise in the case, and oblige

Subscriber.

Michigan, March 4th, 1843.

The cut at the head of this page, represents Prouty's Patent Subsoil plough. They are made of three sizes—for four, two, or one horse; are light in working, but of immense strength, and very effective in all lands; a boy of 14 being competent to the task of holding them, except in very stony soils; nor is the labour of the team generally so great as that necessary to turn the first furrow of seven inches deep, on the same land: there is no doubt these ploughs will come into general use. They are to be obtained at Prouty's Seed and Implement store, No. 176 Market street, Philadelphia; the four-horse size $12; the two-horse $10; and the single horse, at $8; warranted to work well. Where also may be found, improved agricultural tools and machinery in the greatest variety, of first-rate workmanship, constructed of the best materials, and at moderate prices.—Ed.

For the Farmers' Cabinet.

The Air-tight Stove.

Mr. Editor,—I am indebted to the pages of the Cabinet for a knowledge of the Air-tight stove, and can best repay the obligation, by endorsing your *endorsement* in commendation of it, to the letter. But I have made an addition to the one I have, which will prove of great importance to those who have already purchased, or intend to supply themselves with these incomparable stoves, in the shape of an oval drum, one-third the size of the stove, which stands between it and the fire-board, to arrest the passage of hot air into the chimney; by which, I find that nearly a third part of the fuel is saved. The drum is not quite so high as the stove, but it is furnished with a partition down the centre, inside, closed at the top and open at the bottom; thus the current of heat from the stove, is first forced against the top part of the drum, and then downwards to the bottom, from whence it rises to the top on the other side of the partition, before it is permitted to escape into the chimney; all which causes a vast amount of caloric to be disseminated around the room; and thus, in a measure regulating the draught of air in the stove; preventing too strong an ignition, as is sometimes apt to take place, if the door be left too highly raised. And need I do more to recommend the use of this stove, with the drum attached, to the attention of your readers, than state the fact, that the consumption of wood in my stove—the fire continuing day and night, and never going out during the whole time—was exactly half a cord of hickory wood in three months. The peculiarity of this stove is, that the use of it may be continued long after others shall have become too hot for service, in consequence of warm weather: as it is often, that even during the summer and late spring, and early autumn, a fire on a damp and cold evening is found desirable; and here it may be obtained, by igniting a few chips or small pieces of wood for a few minutes; which can be instantaneously extinguished, by merely closing the door. In short, I have no doubt the use of the Air-tight stove will be found invaluable in warding off attacks of chill and fever, which often arise from sudden change of weather, from warm and dry to damp and cold, particularly on the evenings of spring and autumn. In justice to the inventor, however, it must be observed, that many stoves, bearing the name of Air-tight, are not of the proper pattern; mere external imitations, and by no means answering the proper purpose: the only security is in applying to the manufacturing agent, W. W. Hughes, No. 45, Walnut street, Philadelphia, where they may be obtained of the best materials, superior workmanship, and warranted perfect. Mr. Hughes is also agent for the manufacture and sale of Espy's Ventilator: can any of your readers inform me whether or not the invention is proof against a chimney which is an inveterate smoker, as I am tormented almost beyond endurance, with one of those "evils of life," for which I have never yet been able to find a cure.

Medicus.

Philadelphia, March 27th, 1843.

A City Street.

BY MARY HOWITT.

I love the fields, the woods, the streams,
The wild flowers fresh and sweet,
And yet I love no less than these,
The crowded city street!
For haunts of men, where'er they be,
Awake my dearest sympathy.

I see within the city street,
Life's most extreme estates;
The gorgeous domes of palaces,
The prison's doleful gates;
The hearths by household virtues blest,—
The dens that are the serpent's nest.

I see the rich man, proudly fed,
And richly clothed, pass by;
I see the shivering, homeless wretch,
With hunger in his eye;
For life's severest contrasts meet,
Forever in the city street!

And lofty, princely palaces—
What dreary deeds of woe,
What untold, moral agencies,
Their secret chambers know!
Yet is without, all smooth and fair,
As Heaven's blue dome of summer air.

And e'en the portliest citizen,
Within his doors doth hide
Some household grief, some secret care,
From all the world beside;
It ever was—it must be so;
For human heritage, is woe.

Hence is it that a city street,
Can deepest thought impart;
For all its people, high or low,
Are kindred to my heart;
And with a yearning love I share,
In all their joy, their pain, their care!

John Wilkes said, "the very worst use you can put a man to, is to hang him."

For the Farmers' Cabinet.

Joint-stock Companies.

I REMEMBER the rage for Joint-stock companies, which swept through England about the year 1825; and am tempted to copy from a record of the time, an account of "The Caledonian Dairy Company," for the amusement of your readers: its purpose was to supply the inhabitants of Edinburgh with pure milk. The land was purchased for £8,000, and £14,000 more were expended in the erection of a building, which is thus described:

"In the front of the edifice is a semicircular projection, in the centre of which is the principal entrance, having a column on either side for the support of a handsome pediment. The interior of this projection contains a saloon, correspondent with it in form, and through which the visitor passes into the great Byre, which is supported by two rows of cast-iron pillars; the stalls being divided by the same metal, and capable of containing 200 cows under one roof. It is 30 feet high, and from the centre of it rises a large dome, for the purpose of light and ventilation; it is also lighted, and air admitted at both ends and on one of the sides: and from a gallery over the principal door, the visitor has a pleasing view of the whole. The troughs are of stone, and each is supplied with a pipe, by means of which it can readily be cleansed, or water admitted for the common drink of the animals. Arched vaults extend below, through the whole length of the Byre, into which the urine passes and the dung is conveyed, from whence the contents are removed through a tunnel, opening on the main road.

"Over the saloon is a room for the Directors, and one above that for the servants. The other part of the building, that parallel with the Byre, contains the manager's house, counting-house, churning-house, engine-house to churn the cream, stores for potatoes, lofts for hay, steaming-house, stables for horses, a shed for the bull, and every thing that can be required in such a place; the land next the road being tastefully laid out as a lawn and shrubbery, with an ice-house for the milk in summer. But, like all other speculations of the kind, it did not answer! There were never more than 160 or 170 cows in the Byre, and these rapidly diminished in number, until the magnificent concern was so plainly a losing one, that it was abandoned by the company."

Now, with this enormous outlay for buildings, land, stock, &c., the wages of manager, servants, cost of food for cows, with wear and tear and casualties, what would be reasonable to calculate as the probable income for the support of the concern—the largest sum that could have been in the contemplation of the company? Why, supposing that each cow gave two gallons of milk a day, the whole year—which is a very large yield—the whole quantity for 200 cows, would be 146,000 gallons, which, at 16 cents per gallon, first hand, would amount to $23,360, about one half of which sum would go for rent of land and buildings, at 10 per cent. on the cost of erection; so that each cow would have to pay about $50 per annum, for rent of stall; leaving the other half to pay interest for stock, manager's and servants' wages, food, taxes, wear and tear and casualties, and a hundred other expenses not easily calculated! But the delusion was of short duration; a few months witnessed the end of all "Joint-stock companies," but the effects of the mania are still felt by hundreds of weak minded persons, who were so infatuated as to believe that the time was come for every one to make a rapid fortune, without inquiring who were to be the *contributors*, if every one was to be a *receiver*. We are all apt to say, such things will be a warning for the future; but there will be no such thing—we are all ripe for another start—it is only to show us that 500 per cent. is to be made by speculation, and the most sober minded amongst us, will be drawn from their "proprieties:" witness the *morus* mania, where all proposed to be *sellers* of trees, and no *buyers*, leave alone the making of silk, which scarcely an individual contemplated, except on a very small scale, to show how profitable it would be to purchase his stock of trees—*to keep them himself*, being quite out of the question. But there is one speculation in which we may all indulge—it is, in highly manuring and cultivating our lands—to be sure, we are promised no more than from 40 to 50 per cent. interest, on the capital invested, but until we can do better, suppose that we submit to do business in this small way! depending upon it, however, that a "Lo here!" will soon again be heard, and another rush will take place, with the same fatal termination! I am here tempted to relate an anecdote, the truth of which may be relied upon. On the south side of the Isle of Wight, England, there once lived a plain, honest, hard working country tradesman, who had, by dint of industry and keeping at home, saved up a considerable sum of money; but he was tempted to join a "Joint-stock company" in the neighbourhood, and adventured his all, in fitting out a vessel in the fruit trade, by which he was told he would double his money the first voyage.

But it so happened, that the ship was wrecked on her homeward passage, almost at his very door; the sea-shore being strewed with nuts, almonds, oranges, raisins, &c. The poor man thus lost his all, and was accustomed to walk the shore in despondency, lamenting his fate; but one very fine, calm morning, he fancied that the little rippling waves, which ran up and embraced his feet, were wooing him to make another spec, when he immediately drew back, and exclaimed, "Deceitful sea! thou wantest more nuts and almonds, dost thou?" Now, I candidly believe that this little incident has saved many in that part of the country from delusion and ruin, and that it is calculated to do much good in this country also, provided you consent to let it be known through the pages of the Cabinet; a work which has afforded me much useful reading and valuable information. JOHN TANEY.

January 28th, 1843.

For the Farmers' Cabinet.

TO PRESERVE EGGS.—The high price and scarcity of eggs during the winter season, render it an object of importance to preserve them from decay during the season of abundance, for that of scarcity. This, like every thing else, is a very easy matter when we know how to accomplish it, and difficult when we are ignorant of the mode of effecting it.

The shells of eggs are porous, and by being long kept, the fluid contents evaporate gradually, and that in proportion as the temperature of the weather is increased; the vacant space occasioned by the evaporation, is immediately filled with air, and this air acts on the contents of the egg, and produces decomposition or rottenness. Now if the air can be prevented from entering through the shell, the egg will remain sound for an indefinite period—for decomposition cannot take place without air.

Réaumur tried varnishing eggs to preserve them, but he found the cheapest and most effectual method was to apply oil or grease, with which they were rubbed, or into which they were dipped.

The transpiration of matter from the egg, was proved to be as effectually stopped by the thinnest layer of fat, as by a thick coating, so that no sensible vestige be left on the surface of the shell. All sorts of fat, grease or oil, were found well adapted to preserve eggs; they were preserved for nine months, as fresh as the day on which they were laid. Other plans of accomplishing the same purpose might be stated, but the above is so simple, cheap and effectual, that it is deemed unnecessary. Q.

MISSISSIPPI ALMONDS.—We are indebted to our friend and brother craftsman, M. Shannon. Esq., of the Vicksburg Whig, for a present altogether novel to us—it being a handful of *soft-shelled almonds*, the produce of his own garden.

Mr. Shannon informs us that he has but one tree—that its growth is tolerably thrifty, but that the greater part of the fruit drops off before maturity. This year he has gathered more than a pint of the shelled fruit—last year, half that quantity. Those of last year, after being dried, were as fine as any ever imported. He had also a tree of the hard or bitter almond, which flourished as finely as any peach tree—it was loaded every year with fruit that ripened well—but, as they were of little use, and brother Shannon had but little ground to spare, he dug it up.

An almond, as every one perceives, differs but little from a peach-stone—and the skin covering it, is very much like the pulp of a peach, except that it is thin. These, at least, which we have received, have but a thin coat, with a slight fuzz on the surface, considerably withered, and, when pulled off, it has much the appearance and smell of dried peach nuts, but is bitter to the taste. The tree, too, resembles a peach tree so much, that the difference can hardly be perceived. It can be budded on a peach stock as easily as one peach can be budded on another.—*S. W. Farmer.*

GATHERING POTATOES.—Irish potatoes, if it is desirable to have them in all their excellence, should never have the sun shine on them after they are dug, and should be exposed to the air and light as little as may be. Potatoes pitted or buried in holes in the field, retain their freshness and good qualities much later than those put in open bins in the cellar; and the farmer will always do well to have a few pitted for spring use. The necessity for this may in a great measure be obviated, by lining the bottom and sides of a bin with turf, and when it is filled, covering it in the same manner. Potatoes will keep perfectly sound and good for years, if placed so low in the earth as to have a temperature too low for vegetation. Experiments made in a compact soil, on the north side of buildings or walls, show that four or five feet will usually be sufficient; in a lighter or more porous soil, a greater depth is requisite. No water in any case should stand on potatoes, as it will soon destroy them. If potatoes are dug and pitted early, there should be an opening made at the apex of the heap, and filled with a wisp of straw, to keep out the rain, but at the same time to allow the heated air to pass off.—*American Farmer.*

Treatment of Domestic Animals.

EDITORS OF THE CABINET,—The proper treatment of the diseases of domestic animals, is probably less understood than any other department of rural economy; and so long as no efforts are made to class it among the professions, and one worthy too, of the attention of scientific and educated men, must there be losses sustained of valuable animals, from injudicious or dangerous remedies. In England there is more than one veterinary school, where the anatomy, physiology and diseases of animals are regularly studied, as in our schools of medicine; and there is no doubt that in our own country, a well qualified person in any good farming district, would receive ample encouragement as a veterinarian. Is it not worthy of the attention of our agricultural societies, to send one or more persons to England to go through a course of study, in one of her schools, where I am told the advantages are all that could be desired.

In the absence of much of this scientific knowledge, it may be well to record in our agricultural papers, accounts of maladies of animals, with their treatment and results; *pro bono publico*, to throw one's experience into the common stock.

The "M'Elroy cow," of whose great milking qualities a short account was published in the Cabinet last spring,* had a fine bull calf on the evening of the 7th of the present month, and appeared well till the morning of the 10th, when upon going into her stable, she was found in great pain, moaning, uneasy, and refusing to eat—her horns down to the roots were very cold,—the pulse quick, strong and full, and slightly swelled. I immediately gave her one and a half pounds of epsom salts, with a small portion of ginger; opened the holes in her horns, which had been previously bored, and applied a small portion of turpentine back of her head, this latter being a common remedy here, for an ailment probably miscalled hollow-horn. In the course of two to three hours, the pain still continuing, and the medicine not having operated, judging from the pulse, there was considerable fever, I bled her about seven pints. She ceased moaning, and laid down, appearing easier. In the course of another hour, I went down to give her another dose of salts and found her dead, being about five hours from the time she was first discovered.

In the treatment of this cow, and my animals generally, I am guided by Youatt, and heretofore with success. The symptoms here corresponded exactly with those which he ranks under the name of puerperal, or milk fever, and although he says, "this complaint generally attacks cows in very high condition, and where there is of course a predisposition to fever; yet deep milkers are also equally subject to it." He says, "all cows have a slight degree of fever at this time; a very little addition to that, will materially interfere with the secretion of milk, and perhaps arrest it altogether, and the throwing back upon the system the quantity of milk which some of them are disposed to give, must strangely add fuel to fire, and kindle a flame by which the powers of nature are speedily consumed." "The disease is an inflammatory one, and must be treated as such. There is no malady which more satisfactorily illustrates the necessity of endeavouring to subdue, as speedily as possible, every inflammatory complaint by the *free* use of the lancet, for all of them run their course with a rapidity which a person unaccustomed to these animals, and which the human practitioner especially, would scarcely deem possible." "The small bleedings to which some have recourse, are worse than useless, for they only increase the natural tendency of these animals to take on a low and fatal form." So much for Youatt.

It will be seen he relies on purging, and particularly deep bleeding, and yet I have no doubt the latter contributed to the fatal termination of the complaint. She was always in very poor condition, and I always found it impossible to have her otherwise; all the feed given seemed to go to aid the lacteal secretions, and she constantly looked more than half starved. Although there may be *some* fever in cows of her condition, at such times, experience in this case would seem to say, there is not sufficient to make it necessary to exhaust the strength by premature bleeding, but rather to rely on the operation of the medicine, repeating dose after dose, till an effect is produced, or even to hasten it by injections.

On examination, the rumen, manyplus and abomasum, or fourth stomach, were greatly distended with food, while the rectum, or large intestine at the termination of the digestive canal, was empty, showing the disease to have been an obstinate constipation. It should also be mentioned, that no milk, or only about a pint, could be drawn from her, and her udder was hot, as if inflamed.

The death of the M'Elroy cow, is the more to be regretted at this time, as I had intended to offer her when pasture came, to the disposal of a committee of the Philadelphia Society, to test her milking properties, either here or at any other place, where she could have an impartial trial, and with the

* See vol. 6, page 382.

view of establishing her claim to the very liberal offer, published last spring in the Germantown Telegraph, of a premium of several hundred dollars, for any cow, neither *Durham* nor *Devon*, making over 12 pounds of butter in a week. The account of her milking published in the Cabinet last spring, stated, that from pasture alone, she made within two ounces of 14 pounds of butter, and her former owner stated, that with moderate feed, she made for six successive weeks, 16½ pounds per week. I had hoped to have a portrait of her by Woodside, for the Cabinet, to accompany the statement of such a proposed trial; but as it is now too late, I would refer the readers to a portrait of the Alderney cow, "Lady Emily," in volume 5, page 153, which is pronounced by all who saw her, a most excellent likeness. I myself doubt, whether he could have drawn her more to life; the hollow back, the large overgrown belly, light thigh, the head, horns and face, having a most remarkable resemblance. Indeed such a shape always speaks for itself as regards milk.

I have the satisfaction however, of having secured from her two heifer calves, by "His Grace," which give great promise of sustaining the reputation of their distinguished dam, as milkers, while they surpass her in comeliness and beauty.

Would it not be well for Agricultural Societies, in their list of premiums to pay more attention to the subject of *milking* stock, by offering distinct premiums for the best milkers, and giving this department to the charge of a *special* committee. They could then be informed beforehand, where there was a cow to be offered for competition, and could satisfy themselves at their leisure, either by repeated visits, or by placing her for a definite time with some disinterested person; it being common with some, to disbelieve any statement of a yield over seven or eight pounds per week, and who would be satisfied with nothing else than the report of an impartial committee. In the vicinity of large cities, milk and butter are certainly far more worthy of attention than beef, or feeding qualities, and yet in the award of premiums, they receive the *least* attention; a cow low in condition, and with the points indicating milk, has generally a poor chance for competition against a cow with round barrel form, broad loin, heavy buttocks, and other indications of a good feeder. Ought not the highest premiums of every agricultural society be disposed to the encouragement of that branch or division of farm management, most important to the farmers among whom it is located. In the far West, where they raise and graze stock for the Eastern markets, milk and butter should receive only secondary attention, but here they are entitled to the primary notice, and the largest premiums of our agricultural societies.

P. M.

Allerton Farm, near Westchester, Chester county, Pa., Third mo. 13th, 1843.

Siliceous Stone--tripoli.

There are rocks in the interior of continents, at various depths in the earth, and at great heights above the sea, almost entirely made up of the remains of zoophytes and testacea. Such masses may be compared to modern oyster-beds and coral-reefs; and, like them, the rate of increase must have been extremely gradual. But there are varieties of stony deposites in the earth's crust, now proved to have been derived from plants and animals, of which the organic origin was not suspected until of late years, even by naturalists. Great surprise was therefore created by the recent discovery of Professor Ehrenberg, of Berlin, that a certain kind of siliceous stone, called tripoli, was entirely composed of millions of the skeletons, or cases of microscopic animalcules. The substance alluded to, has long been well known in the arts, being used in the form of powder for polishing stones and metals. It has been procured, among other places, from Bilin, in Bohemia, where a single stratum, extending over a wide area, is no less than 14 feet thick. This stone, when examined with a powerful microscope, is found to consist of the siliceous cases of infusoria, united together without any visible cement. It is difficult to convey an idea of their extreme minuteness; but Ehrenberg estimates, that in the Bilin tripoli there are 41,000 millions of individuals of the *Gaillonella distans* in every cubic inch, which weighs about 220 grains, or about 187 millions in a single grain. At every stroke therefore, that we make with this polishing powder, several millions, perhaps tens of millions of perfect fossils, are crushed to atoms.—*Lyell's Geology, vol. 1, page 52.*

Those who wish to raise bountiful crops of grass, must not be parsimonious of seed; for be sure, there will not be more spears of grass than there were grass seeds sown. Orchard grass combined with clover, has commended itself much to many who have tried it; and in some soils it is found to answer better than timothy. Some say, the more *kinds* of grass seed sown together, the more pasture and hay will be produced.

O.

For the Farmers' Cabinet.

Limestone of Mannington, Salem county, New Jersey.

On the farm where I reside, the stratum is more than 25 feet thick at the point where I have been digging, having penetrated that far and found no bottom; 15 feet of which lie above spring water. The top of it lies at various depths, from six inches to five feet below the surface of the earth.

At Aaron Lippincott's marl-pits, half a mile N. W. from the abovementioned place, the marl is overlaid by a thin vein of the same stratum, not over three or four feet at its greatest thickness; thus proving the dip of the lime and marl towards the south-east, as suggested by Professor Rogers, in his report for the year 1840, a part of which for a full description of said lime, I herewith transcribe:

"*Geographical Extent.*—The general range of the stratum is from a point a little north-east of Salem, past Woodstown, Mullica-hill, Blackwoodtown, Vincentown, and New Egypt, to Prospertown; beyond which, I have been as yet unable to discover a trace of it. But it is not to be inferred that it exists as a stratum of much extent or importance, throughout all this long line. It has hitherto been detected at distant points only, and nowhere but in Salem county, does it cover a wide area, or possess more than a very insignificant thickness. It lies along the south-eastern edge of the visible marl tract, and if it dips at all, it is towards the south-east, to underlie the ferruginous sands. At its greatest width, four miles north-east of Salem, it can be traced over a breadth of three-fourths of a mile, its thickness in the same neighbourhood, as proved by a well sunk through it, is as great in one spot as 20 feet; though elsewhere in the same vicinity, it is not more than six or eight.

"*Composition and aspect.*—This rock is usually a soft yellowish, or straw coloured limestone, with a structure varying from subchrystalline to coarsely granular. It is often replete with organic remains, the disintegrated shells and corals, and other fossils, composing a considerable portion of the mass. Much of the rock contains impurities, as sand, clay, and oxide of iron; and its value as a limestone is very variable. At times it is little else than a sandstone, in which the sand is cemented together by a trace of lime. It occurs with this character in loose rounded masses, resting above the marl at Woodstown. Again it exists as a firm calcareous rock. This is its state in some places near Salem, in Mannington township. In the accompanying analysis, the composition of the leading varieties of the rock may be accurately seen. This limestone is nowhere to be found in thick massive strata; on the other hand, it occurs only in thin horizontal beds, or irregular layers, not more than four or six inches thick, and commonly separated by a thin parting of sand and carbonate of lime, in small grains, to all appearance an incohering mixture, of the same materials that form the rock itself. The more calcareous beds, have not unfrequently some resemblance to some of the thin oolitic strata of England, in consequence chiefly of the granular form of much of the carbonate of lime; together with the innumerable fragments of fossils, which sometimes form almost half the mass. Unless attentively observed, this rock will appear much more sandy than it actually is, owing to some of the carbonate of lime being in the shape of small round yellow grains, like those of sand. Occasionally, especially near the bottom of the stratum, where it adjoins the marl, it contains a sensible proportion of the green grains, sometimes in such abundance as to unfit it for being burnt into lime, the potash and other ingredients of the green mineral, serving to vitrify it and form a kind of slag.

"On the farm of David Petit, in the vicinity of Mannington Hill, the limestone displays itself in considerable thickness, the layers of the rock alternating with the calcareous sand as described above. This locality is about a mile and a quarter south-west from the poor-house.

"The following analysis exhibits the proportion of carbonate of lime in the limestone of this neighbourhood.

Composition 100 parts:

Carbonate of lime,	77.80
Carbonate of magnesia,	1.20
Alum and oxide of iron,	1.80
Insoluble matter,	17.80
Water,	1.12
	99.72

"This stratum is destined to prove of signal service to all the region adjacent to it; for lime is particularly useful upon lands destitute of calcareous matter, like some of the more sandy tracts of New Jersey. The lime from this rock in Salem, is growing rapidly into use. I would recommend—as promising to prove highly beneficial—the soft, friable, unconcreted parts of the stratum, which lie between the solid layers, especially near the bottom of the formation. Being already in a pulverulent state, and composed chiefly of carbonate of lime, with occasionally some of the grains of green

marl, the whole must constitute a *calcareous marl*, admirably adapted to meliorate the lands of the surrounding country.

"Both the *limestone* and the *calcareous sand* occur well developed on the farm of Job Ridgway, near Mannington Hill. The rock at this place has a subchrystalline texture, being tolerably well cemented; towards the centre of the layers it is of a bluish colour; it is quarried to some extent and burned on the spot, yielding a very good lime."

Its application and use.—In the winter of 1837, I hauled about 12 two-horse wagon loads of the limestone and the intermediate layers of carbonate of lime and sand, of about 20 bushels per load, on a part of a field that I planted with corn the spring following, and on measuring the product, I found it was a little, and but a little in favour of the limed part. In the spring of 1838, I sowed oats on the same field, which grew so much larger on the limed part, that the difference in the size of the stubble, after gathering the crop, was plainly perceptible. In the fall of 1838, I manured both parts about equally, and sowed white wheat; on the part that was limed, the wheat was injured but little by the freezing and thawing of winter, in comparison with the part not limed, which was in some places, and adjoining the limed part, where the ground was low and wet, nearly all heaved out, or winter killed. The limed part produced nearly double the quantity of wheat to the acre, of the part not limed, the whole averaging 20 bushels.

In the spring of 1839, I sowed clover and timothy seed on the same field; the yield of which was at mowing time, in 1840, and also the second crop, or seed clover, nearly double on the part limed. In the summer of 1841, I mowed the field for the third time, and found the like difference. In the winter of 1842, I covered the remaining part of the field with the same kind of lime, and the spring following I planted corn on all the field—the yield was as follows:—on the part limed in 1842, the product was not more than two-thirds as much as on that which was limed in 1837; the two parts were about equally productive, previous to the first application. Thus it would seem that the liming was of but little benefit to corn ground the first year; but on oats, it has uniformly increased the crop nearly one-third; and I have not observed, after various experiments, that an additional quantity, above 20 loads per acre, is of any advantage, further than to act mechanically on the land, it being extremely loosening on a stiff clayey soil.

The layers are many of them a foot or more in thickness, and so soft and friable, that one winter's exposure is sufficient to pulverize nearly all of it, so that I apply it without burning; deeming it of more benefit than if it were burnt. I haul the layers between the stone also, from which I receive equal benefit; the composition being very near the same. I have hauled on extensively, since the first experiment of 1837. From various trials, the increase of the crops pays all expenses the first year, as two hands with a team can dig the lime and cover an acre a day—about 15 loads per acre.

Some of my neighbours quarry and burn the limestone, throwing the soft pulverulent lime-earth, chalk, or calcareous marl, back in heaps, and there leave it, as if of no value—as at Job Ridgway's farm, as mentioned above, in Rogers' report; in the extract from which, I have corrected some slight errors as to names and localities.

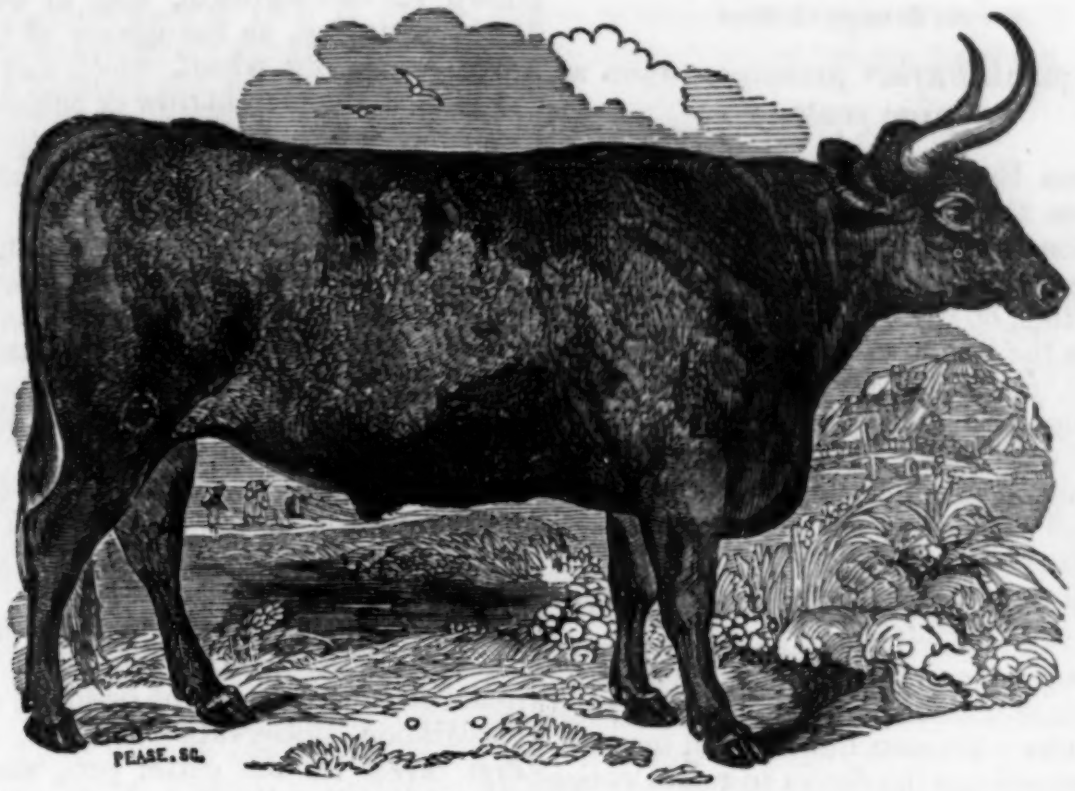
I could say much more, but fearing I should be too tedious, I conclude. Please dispose of this as you may think proper.

D. Petit.

Mannington, Third month, 1843.

Grafting.—M. Schroer recommends using a branch of common willow, an inch or two in diameter, in the following manner, as a matrix for receiving the grafts of such varieties of apple, pear or quince trees, as it is desirable to multiply. Make longitudinal cuts or slits *through* the branch, at equal distances of 15 or 18 inches. Take grafts, having two perfect buds, give the lower end the usual wedge-shape, using a keen knife, and insert them in the slits of the willow, making the lower bud sit close to the slit. Then bury the branch in a trench formed in good garden soil, of such depth as will permit the upper buds to protrude just above the surface of the ground, when the trench is again filled. The ground must be watered occasionally, if the season be dry, and weeds must be carefully extirpated whenever they appear. In the spring of the following year, the branch may be taken up and cut in pieces, leaving a small portion to each of the growing grafts—which are to be replanted in a nursery. The willow does not form a permanent union with the grafts, but merely supplies nutriment till the proper fibrous roots are produced from the lower bud.

Onions.—If onions be planted in the same hill with vines, it is said they will protect the latter from the depredations of the striped bug.



THE SUSSEX OX.

The resemblance between the Sussex and the Devon oxen is great; they betray the same origin, and it is thought that formerly there were two distinct breeds, one large and coarse, somewhat resembling the Hereford, the lighter race bearing about them marks of the Devon. Mr. Ellman speaks of the Sussex ox, as having a small and well-formed head; and this is true, when compared with many other breeds, or even with the Hereford; but it is coarser than that of the pure Devon; the horns also pushing more forward, and then turning upwards, thin, tapering and long, yet not so as to confound them with the Long-horns. The eye is full, large and mild; the throat clean, and the neck, when compared with either the Long or Short-horns, long and thin; yet evidently coarser than that of the thorough-bred Devon. But the shoulder is the main point of difference; and here is the principal defect in the Sussex ox: there is more width and roundness on the withers; it is a straighter line from the summit of the withers towards the back; there is no projecting point of the shoulder when the animal is viewed from behind, but the whole of the fore-quarter is thickly covered with flesh; giving too much weight to the coarser and less profitable parts. This is unquestionably a defect, but it is counterbalanced by many admirable points; for if there is more weight in front, the fore-legs are wider apart, straighter, and more perpendicular than in the Devon, and they are placed more under the body, rather than seeming to be attached to the sides: the fore-arm is large and muscular, but the legs, although coarser than those of the Devon, are small and fine downwards, and particularly below the fetlock. The barrel is round and deep, the back straight; no rising spinal processes are to be seen, but rather a central depression; and the line of the back, if at all broken, is only done so, by a lump of fat rising between the hips. The belly and flank are capacious, with room before, for the heart and lungs to prepare and circulate the blood, and space behind, in the capacious belly, for the full developement of all the organs of digestion; yet the animal is well ribbed home; the space between the last rib and the hip-bone, is often very small, and there is no hanging heaviness of the belly or flank: the loins are wide, the hip-bone does not rise high, nor is it ragged externally, but large and well spread, and the space between the hips is well filled up. The tail fine and thin, is set on lower than in the Devon, yet the rump is nearly as straight, for the deficiency is supplied by a mass of flesh and fat, swelling above. The hind-quarters are clean, and if the thighs appear straight without, there is plenty of fulness within. The Sussex ox holds an intermediate place between the Hereford and Devon in another point of view, seeing that he has all the strength of the first, with the activity of the second; and the propensity to fatten, and the beautiful fine-grained flesh of both; while experience has shown, that he possesses as many of the good qualities of both, as can be combined in one frame. He is of a deep chesnut-red colour; some however, preferring a blood bay; while a deviation from these, indicates a stain in the blood.

For the Farmers' Cabinet.

The "Small Farm" principle, upon a large scale.

Messrs. Editors,—Much has been said of late on the superior advantages of small farms; the sequel of which is, *don't cultivate more land than you can cultivate well.* The force of this, no one will pretend to gainsay; although the size of farms worked upon this principle, may vary very much in extent; depending upon the force employed, the mode of cultivation, and the *lay* and quality of the land. But however correct the principle, and conclusive the arguments in its favour, there are objections and difficulties, which in many instances must be, for a time at least, insurmountable.

It frequently happens that upon large farms, the situation of the buildings is such as to render a division difficult and inconvenient; sometimes the desire to retain entire the patrimony of our fathers, is an equal impediment; or we may have added to our acres, with a view of dividing them among a rising generation.

Now I propose suggesting a plan for the management of large farms in this section of country, which appears to me to embrace the advantages of the small farm system, without conflicting with any of the impediments in the way of its adoption. And though I may not add much that is new, I may produce a system from abstract propositions, which will possess increased advantages from being combined.

1st. *Arrangement.*—Set apart for tillage upon that portion of the farm best adapted to that purpose, seven fields from 10 to 15 acres, according to the force to be employed; keeping constantly in view the principle upon which the system is founded, *not to cultivate more than you can do well;* the *balance* of the farm to be kept in grass for grazing, which too, should be that part of it best provided with water, shade, &c., and which should be well laid down with such grasses as experience has shown to be adapted to the soil.

2nd. *Rotation of crops.*—First year corn, second, oats, spring-wheat, or barley, as circumstances may best suit, and clover seed, a liberal allowance; 3rd. Mow first crop, having as early as possible in the spring, put on all the barn-yard, or long manure, especial care having been taken to distribute it equally over the land, so that every part may at once receive its benefit, and that it may the sooner be covered by the clover, and thereby protected from the sun. Plough down the after-growth, with or without a light pasturing, as the quality of the land may justify, for wheat, which may be put in with a common harrow or cultivator, the latter of which I prefer, as it covers the seed better, and leaves the surface more uneven, to moulder down by the frost of winter and the roller in the spring, about the roots of the young plants. Sow grass seed in the fall or spring, or both, as experience shall prove best, for without observation and judgment, no theory can be successfully reduced to practice. 5th and 6th. Mow first crops, and pasture the after-growth. 7th and last; Pasture with cows, horses, &c., the standing stock of the farm; which should, upon no account, be allowed to run with the fatting cattle.

3rd. *Manure.*—As this is the main spring, the very Philosopher's stone of the art, too much attention cannot be bestowed upon its preparation, preservation and use. In the first place, let the cattle yard, sheep and hog pens, be well covered with earth to a depth proportioned to the amount of manure likely to accumulate upon it, which may be gathered from headlands, fence rows, or such other places as may afford a ready supply; and if a *basin* be formed below the barn yard, for the reception of the liquor which may escape from it, and a good deposit of earth be annually supplied, with such weeds and trash as may be collected, a large increase of good manure may be obtained. The hogs too, should be kept confined through the winter and spring, and if furnished with the "raw material," will manufacture a large amount of excellent manure.

It has been ascertained by chemical experiments, that gypsum applied to fermenting manures, combines with the gases that would otherwise escape, and renders them fixed, or involatile. With this view, and to facilitate the decomposition of the long manure, when it shall be applied to the land, I propose mixing with the earth in the bottom of the yards, and with the long manure, by scattering a portion of it over the yards at intervals through the winter, a sufficiency of gypsum to produce that result; the amount can be best ascertained by experience. Perhaps a ton to fifty cords, or an hundred common cart loads would be sufficient. If there should still be an escape of fœtid gas, the quantity could be increased.

I have said that the long manure should all be applied to the clover. This would be returning to the soil all its produce, except the grain, which shall be sold; and with an application of gypsum and ashes to the corn, (*if it should require it,*) with the proposed rotation of crops, alternating dry with green

and ploughing down a crop of clover for wheat, would certainly increase the production, and improve the quality of the plough land; while the dirt from the yards, &c., would afford an excellent top-dressing for such parts of the pasture land as should most require it; the whole of which should be *scratched* with a heavy brush as early as possible in the spring, which would pulverize the manure dropped by the cattle, and freshen the pasture by scarifying the surface. Should, however, portions of the pasture land at any time require renewing, it could be readily done by sowing with wheat and grass seed, after a single ploughing.

I have said nothing about lime as a manure, but confined myself to the natural resources of every farm, with the exception of gypsum. As the use of lime requires a heavy draft upon the produce and labour of a farm, common prudence seems to require, that it should only be resorted to where its application is of *known advantage;* and then in such quantities only as are absolutely necessary, instead of the loose manner in which it is too frequently used. The only inquiry being, how much may be applied without destroying vegetation—or as the phrase is, "*without killing the land.*" *That* lime which can be used in the largest quantities *with impunity*, being the most sought after and esteemed. The precise amount necessary for the different soils, can only be ascertained by careful experiment and close observation. My own impression is, that large quantities of lime, to say the least, are thrown away with the consequent expenditure of money and labour—and my experience here, thus far, fully confirms that impression.

And now for the advantages: 1st. It enables the farmer to accommodate his labour to the force at his command; cultivating only such parts of his farm as possess the greatest advantages for tillage, while the hilly, broken or rocky land, if there be any, is set apart for grazing. It saves fence, as all experience goes to prove, that cattle thrive best, when allowed the whole range of their pastures. It saves manure by applying it in the spring, instead of allowing it to bleach and waste in the yard until fall, with a whole season's loss of its benefits. It secures a probability, if not a certainty of a better crop of wheat, than if the manure had been applied in the fall in an unfermented state, thereby producing a superabundance of straw and greater liability to rust. And it offers a saving of labour in the smaller amount of land tilled, which will afford more time and attention for the collection and preparation of manure, with many other advantages which will suggest themselves to the practical farmer.

A. R. M'Ilvain.

Chester co., Pa., March 1st, 1843.

From the Cultivator.

A Profitable Cow.

Messrs. Editors,—I send you some statements of the production of my cow, for publication, hoping it may induce some to reform in the treatment of animals so useful and profitable. We made last spring in one month, from one cow, 59 pounds of butter; commencing the 5th day of May, and ending the 4th of June. Within that time we weighed her milk for three successive days—the whole weight one hundred and eighty-nine pounds, averaging sixty-three pounds per day. Some five or six years ago, in the month of April, we made in twenty-one days, thirty-nine pounds and six ounces, besides using milk freely for the family. We also made on another trial of nine months, two hundred and seventy-two pounds, besides using milk for a family of six persons. The cow was 10 years old last spring, had a calf at two years old, and has had one every year since; is of the native breed, large size, always in good condition, and has been well kept from a calf, to which cause I attribute a portion of her superior qualities and extra size; though there must be something "bred in the bone," that gives us yellow butter at all seasons of the year, and milk always, nearly, and often quite the whole year. While on her trial last spring, she was fed six quarts of buckwheat bran per day, with what hay she would eat, till grass took the place of hay.

Would not all farmers do well to keep fewer cows, and keep them better? Is not one well cared for, more productive than one poorly fed and attended? Is not a warm stable better than the leeside of a rail fence? Is not a good bed of clean straw better than one of manure, or can they be as comfortable with thirty or forty pounds of it adhering to their thighs, as if they were kept smooth and clean as in summer? In short, does not any thing that adds to their comfort, add to their productiveness?

Such treatment may be objected to on account of expense, but has the objector counted the cost? Do turnips cost more than hay? Does bran, or oats, or corn even? I think not at this time. I see nothing extra, but a trifle of labour and care, and does not the superior condition of the animal pay for that more than four-fold?

Daniel J. Curtis.

Canaan Centre, Jan. 18th, 1843.

For the Farmers' Cabinet.

The Tare, or Vetch Culture.

It is very desirable that we should cast about, and see if there be not other crops, besides those that are grown *by every one*, that might be raised, either as food for stock or for manufacturing purposes. With this view I would advocate the cultivation of the tare or vetch, of which we hear surprising accounts, and which could be raised in this country to the greatest perfection, if the times and seasons, and situations were to be watched as carefully as they are elsewhere. I was shown, the last spring, a sample of tare-seed which had been brought to this country by an English emigrant, for the purpose of cultivation; and was soon after informed by a seed merchant, that they had been sown with a prospect of success; and was given the promise of a faithful report at the end of the summer, for publication in the Cabinet—but this I have not received, *nor did I expect it;* for the person who brought the seed from England, although professing to know all about it, made the fatal mistake, of selecting the *winter*, for the *spring* variety; an error which would not bear reporting. The seed of the winter tare, is much blacker and rounder than that of the spring variety; and if sown in the spring, will not produce half a crop; while the spring tare, if sown in the autumn, will not stand the winter—a consideration of the greatest importance; but, as we have seen, apt to be overlooked, even by Englishmen themselves. Then again, the land should be suitable to their growth; rather moist, and enriched with manure; the season of sowing also must be propitious; and then, if every thing *hits*, the crop will be astonishingly productive and profitable; leaving the land in a most perfect state of culture for a full and heavy crop of turnips, rutabaga, sugar-beet, or mangel wurzel; after having given far more green food than the best meadows afford, suitable for the feed of every kind of cattle, horses, sheep and hogs; and in the finest condition for grain of any kind the following spring, after two green crops.

An English writer says, "Between the 29th of August and the 4th of September, I ploughed and sowed, with the winter vetch or tare, 18 acres of barley stubble. The whole summer having been exceedingly dry, the land ploughed as dry as ashes, and appeared to have not moisture sufficient to bring up the seed; I chose, however, to sow it in this state, because I was apprehensive that if rain came before sowing, the ground might fall so flat that I should not bury the seed with the harrows. After sowing the seed, I trod the land with sheep; and notwithstanding the great drought, by the 19th of September the tares had come up thick and strong; the sowing in this manner succeeded to admiration, for as they came up at first exceedingly strong, so they held their own all winter, and proved the thickest crop I ever grew; yielding me about 12 tons of green food per acre, which could have been converted into three tons of superlative hay. My success I attributed, in a great measure, to early sowing on a dry and pulverized tilth; for the next year I was not able to sow my winter tares until the 18th of October; the season being wet, and the land ploughing and harrowing heavily, but not more so than we generally desire for wheat; nor did the land tread while harrowing: yet, although the winter proved very mild until the beginning of February, when there came a little frost, the vetches never throve, but looked dwindling and of a rusty colour, which I attributed to late sowing on a cold and wet tilth; and yet the soil was not naturally stiff or heavy, but a mixed loam and friable. About the middle of February, there fell a hard frost with an easterly wind, which destroyed the whole crop, root and branch. So much for late sowing on a wet and cold tilth."

I copy the following account from an English work, as a conclusion to the above, as few of our friends have ever had the opportunity of seeing the growth of the tare, or witnessed the exceedingly productive crop of green food that might be raised by careful management.

"The tare is a pulse of the pea kind; its vegetative powers are superior both to the pea and the bean, being productive, even on lands too poor for them. This plant may be considered as a link between grain crops and the artificial grasses, since it may be grown and applied to either purpose, most congenial to the wants of the agriculturist, or the nature of the soil; in consequence of this quality of the tare, and its strong vegetative powers, it ranks amongst the most valuable plants that can be grown; it may be profitably raised on poor gravelly, or clayey soils, or fresh broken up lays, as well as on lands of the most fertile quality; with the certainty of a fair produce on the former, and without the least fear from excessive fertility on the latter, except when required for seed. The tare grows in length, from three to six feet, producing blossoms and pods, somewhat after the manner of the pea, but on a smaller haulm, and therefore more recumbent. It will follow after any crop for green food, lightening the land con-

siderably, and enriching it by its strong and overshadowing growth. The seed is sown broadcast, at the rate of two, or two and a half bushels per acre, and the produce is about 12 tons of green food per acre; or from 20 to 30 bushels of seed, on good soils. It might be followed by every crop that is cultivated, either grain or grasses, according to the nature of the soil, light, moderate, or stiff; affording also a first-rate seed bed for potatoes; the autumnal sowing of tares coming off the ground in good time for a full planting of these, the latter end of May; as also for turnips, beets, or ruta-bagas. In fine, it is perhaps the most valuable of all the crops in the rotation of the best farmers in England, drawing less from the soil and yielding more food for all descriptions of stock, than any other whatever."

JOHN TANEY.

January 12th, 1843.

Stock Raising.

EDITORS OF THE CABINET,—I was much interested by an article in your last number, over the signature of "ZEBU," by which, in the course of a wide ramble among the breeds of British cattle, he seems inclined to show us of the barn-yard and dairy-house, that the best plan is for us to take his advice and be of his opinion, in regard to every thing connected with the subject of stock raising. Now I admit that every one has a right to his opinion, and is at liberty to convert others who differ from him if he can; but *fair and softly*—and what are Zebu's opinions, and how will they suit general application? In the first place, he eulogizes the Short-horns, whose portraits adorn your pages, and yet seems to demand an oblivion of their existence, by recommending us to raise the best animals that can be obtained *anywhere*. He well enough remarks, that one breed of cattle can never fulfil all purposes required, yet seems to waver about sundry varieties suited to the dairy—now this I do not comprehend; does he wish to say that all are good for that purpose—that it is immaterial of what breed a cow is, provided she be good for the pail? if so, I think he is in error, and that by his own showing. He asserts that the practice of his friend Johnson, buying up his own-bred heifers, is the best plan for an economical rearing of dairy cows; but does he not perceive, that the cause of these heifers becoming good cows, is *that* for which his friend keeps an eye upon them from their birth—namely, because of their having come of animals whose character he knows to be suitable to his purpose? Standing to him precisely in the same relation, in which the Short-horns, the Devons, or the Sussex Polls do to their breeders. I believe that cattle as much depend on their progenitors for their good qualities as for their existence, and yet your correspondent holds up the idea, that the stock which he has been eulogizing, is of no particular value to dairy farmers, but that each should hunt up for himself the best cows he can find, without regard to name or breed, and raise his own stock from them. Now, had such been the practice in England, the very breeds which he praises for this or that peculiarity, would never have existed. As to the general adoption of his friend Johnson's plan, he must be aware that it would defeat its own object, for every one who had taken the trouble to raise a heifer from *his* stock, would feel inclined to raise the price also, when he found it to be an object with the breeder to purchase her back again, if he did not prefer to keep her for the use of his own dairy. And further, Johnson asserts that a part of the heifers raised from his own cows, will be found to be valueless for the purpose of the dairy. Now we know that much depends on the mode of rearing and treating young stock, and that by mismanagement, many a good milker has been spoiled in the calf: yet I must remain unconvinced, that it is best not to raise your own calves from first-rate cows. Besides, if the *points* of a cow are indications of her qualities, these will be developed, so as to enable an experienced eye to judge of her future character, long before she becomes a springer. Why, I have seen calves only a few weeks old, that any one who knows anything of the matter, would pronounce milkers; and in this case, who would like to dispose of them with the bare chance of repurchasing them when fine young cows? However, one thing is pretty clear; those who choose to raise good stock for themselves, will still continue to do so, whether it be short-horns or long-horns, and if they seek their own interest, they will keep the breed pure from base intermixture. That a judicious cross from some other pure breed may then prove advantageous, is highly probable, but great care is requisite in seeing that the new breed is adapted to the same purpose. I believe our native breeds of cows are equal, for dairy purposes, on an average, to most of the imported races; they want, however, the capability of feeding well, and in the case of oxen, of the powers of labour. That breed which is the best for dairy purposes, amongst the imported stock, is the most proper for crossing with our native cattle; the great object being, the improvement of

their already existing good qualities. I would, therefore, hesitate to advocate the introduction of any new characteristic which should have a tendency to detract from the old ones, and would leave to other breeds, the possession of their peculiar properties; remembering, what Zebu observes with truth, that each is suited to a particular purpose.

A Montgomery Farmer.

For the Farmers' Cabinet.

Lime—The Golden Plough relinquished.

Messrs. Editors,—My Lancaster friend seems to think my article, if designed only for the "common reader," might do well enough. Now as a large portion of the readers of the Cabinet are common farmers like myself, without much science, I must "confess the soft impeachment," and acknowledge that it is principally for the benefit of the common farmer, I am writing. Every class of readers ought to have articles to suit them, and I have no doubt Lancaster County Farmer's Chemical Analysis, and quotations from James F. W. Johnston, M. A., F. R. S., &c., &c., will satisfy the most scientific.

Perhaps I went too far in supposing magnesian lime was not used in England; if so, I must lay part of the blame on the Cabinet and Cultivator; the impression I received from perusing their pages was, that magnesian lime was not much used, or approved in that country. But this might be explained if we were informed how much magnesia, was required to constitute magnesian lime. That it must be very different from ours, is proved by the large quantity applied to the acre. His own statement, that "300 bushels is the *average* quantity," is like the gun in Hudibras,

> Which, when aimed at duck or plover,
> Recoiled, and knocked the owner over.

For it will convince practical farmers, that it must have been nearly pure carbonate.

He also says, Sir H. Davy proved an acre of clover to contain four bushels of lime and plaster, or carbonate and sulphate of lime; (magnesia is not mentioned,) and adds, "phosphate of lime, or burnt or crushed bones, is also a powerful fertilizing agent, the base of which is of course lime." The base of a statue may be stone, and its head gold. I have always understood that bones, when boiled until nothing but the base was left, were of but little value. If this is not the fact, Sir H. Davy's countrymen are very foolish to come to this country for bones, when they have any quantity of limestone at home. I am an advocate for plaster, as well as animal manures, bone-dust included, and have never said a word against lime in small quantities, if the soil did not contain it naturally; but I repeat again, that none of his analyses from Sir H. Davy, or any other great man, proves that more lime is required than plaster. And if the professor had separated the carbonate from the sulphate, it would have shown that it required most plaster. Yoking them together, may deceive the *scientific*, but I should not like to try it with my "common readers."

But now for the cream of the article—our Lancaster friend tells the world, that "many soils are unfriendly to the action of mineral agency." In sooth, here is a dark spot for the lucid ray of science to expand in. I do not wonder Lancaster County Farmer lays such great stress on chemical analyses: what money, time and labour, might have been saved! What sore backs and tearful eyes prevented, if we had known this sooner! I have often heard that extremes meet, but I little thought, when Lancaster County Farmer and I parted in such opposite directions, that we should not only meet, but that I should actually be past by him. I supposed most soils contained such minerals as lime and plaster, and if they were deficient, that a small quantity might be added; that the quantity must be small, I thought was proved by the fact, that some soils, such as Mr. Townsend's, have enough lime naturally, to last 100 years, and every "common farmer" knows, that a few bushels of plaster will so completely supply what is deficient in any soil, that subsequent applications will make no change whatever. But I never heard before, that "many soils are unfriendly to the action of mineral agency." Ah! Mr. Lewis that was the "unkindest cut of all:" you may well exclaim, "Save me from my friends." Why, this is not only "kicking the sheep," but destroying the wool trade. Farewell plough! I have no further claim to you. This is worth more, coming from a scientific man, than all I have ever said on the subject. We had better give the State geologist eight dollars per day, and mileage, to analyze our soils, and point out those "unfriendly to mineral agency," than to be thus giving medicine in the dark, without knowing whether we are killing or curing. Never let it be said again, "this controversy is convincing no one;" I even think "a change has come o'er" our Lancaster County Farmer's dream, since he wrote his first article; he there led us to infer, that 70 acres, by the use of magnesian lime, was made to produce more than 200 of the same land without it. Never hinting that stable ma-

nure, plaster, and more than all, the better cultivation which smalls farms generally receive, had any thing to do with it. He now admits they might account for it, "without a particle of lime;" and also says he "can point to any number of farms as productive as Townsend's, which are naturally rich in carbonate of lime:" he should have added magnesia, "and if not," by feeding fat horses and cattle, and plenty of clover growing, the very essence of fertility would be furnished.

If he can point to any number of farms as good as Townsend's, they are at least equal to the same number of his "best limed farms." And "common" farmers, without science, cannot see what all this about rich stable manure means, unless Lancaster County Farmer is willing to admit, that less vegetable and animal manure is made on the "best limed farms," than on such as Mr. Townsend's. None of them buy manure, for there is none to be sold.

His assertion, that "barren tracts" are renovated by lime, and indirectly by clover, will not bear the test of experiment. Clover is the direct thing, and plaster the best manure for it. One of the most successful experiments given in agricultural works, was made on a poor gravelly soil, with clover and plaster alone. Our friend concludes, with the experience of an old man who made manure enough on a small farm, to keep it in a high state of fertility without lime, but in an evil hour purchased land adjoining, which with all the cultivation he could give, would produce no green thing, for if it did, it must have increased his manure. As it appears to have been originally the same kind of soil, I cannot imagine why the same treatment would not produce the same effects, unless some former owner had applied 300 bushels of magnesian lime to the acre; if that was the case, some believer in the homopathic doctrine, that poison will counteract poison, must have advised the second dose. But jesting aside—any "common reader" of the Cabinet, could have explained the mystery, by directing the old man's attention to the numerous instructive articles to be found in your paper, on small farms.

In order to "*define my position*" with regard to plaster and carbonate of lime, I will give one more experiment. When plaster was first introduced into this State, Mr. Daniel Buckley, an enterprising farmer of Lancaster county, procured a few tons and spread it with the shovel, at the rate of 25 or 30 bushels to the acre, and was delighted with the effect produced. But when on better information, he applied one bushel per acre, to the same kind of soil, the effect was the same.

I think, according to Lancaster County Farmer's own showing, the only prop he now has to support him in his *enviable position*, is the supposition that Mr. Townsend's soil, and the *any quantity* as good, which he can point out, is rich in carbonate of lime; if this fails him, as I am well assured it will, if the test of the chemist is applied to it, down—I was going to add something more, but I forbear.

A thought just strikes me, that Lancaster County Farmer may be one of my best friends, and knowing I was deficient in science, sent his last article on purpose to give me something easy to refute. I dislike striking at a mask; a man might innocently knock down his next neighbour. In concluding I will remark, that Lancaster County Farmer seems to consider me an enemy to lime, because I do not recommend more than 50 bushels for 50 years; and a friend to plaster, when I have never advised more than one bushel in three years, which is not quite 17 bushels in 50 years.

I have written Lancaster County Farmer so often, that it has given me a distaste to long signatures, and as the plough dream is over, I think a shorter one may answer for myself.

J. W. Van Leer.

Chester co., Pa.

The Bee.—Providence, that delights in spreading beneficence as well as beauty over all creation, has wisely formed the bee as an humble but active and untiring agent, in gathering up for the most important purposes, and converting to the most valuable use, the scraps and fragments of nature, which would otherwise be scattered by the "viewless winds," and spread through the "ambient air." She has adorned the song of the poet, pointed the tale of the moralist, and furnished food for the hungry in the desert. Plutarch pronounced the bee a magazine of virtues; Quintillian asserts that she is the greatest of geometricians; and Watts, by calling in poetry to the aid of morality, has rendered her figure the means of interest, improvement and delight, to many a youthful mind. Philosophy has stooped to examine her habits and to watch over her haunts; she has presented the models of science, and called forth the attention of scientific men; by her the husbandman has been cheered, when sitting in his cottage garden, in his evening reflections on his day of toil; and in whatever light she may be viewed, there is none who can declare that he has no interest in her ways.

Poudrette as a Manure.

The following communication, with the accompanying letters, extracted from the pamphlet alluded to below, and written by persons who have used the poudrette, came to hand too late for our last number. Since that time, it will be perceived from a notice on the last page, that the proprietor of the Cabinet has made arrangements with D. K. Minor, for the sale of the article in Philadelphia. It is coming extensively into use, around New York, where it is manufactured; and from the frequent inquiries made of us in relation to it, we have no doubt farmers here are desirous to test its value. On corn, grass, potatoes, turnips, cucumbers, melons, &c., &c., it has been found to act very beneficially. We expect to have a supply constantly on hand. J. T.

Editors of the Cabinet,—Gentlemen, I send you herewith a small pamphlet containing several statements made by practical farmers, in relation to the use of *poudrette* as a manure, and shall be much obliged to you if you will publish such extracts from it as you may deem of interest to your readers. Many inquiries have been made in relation to this valuable manure, but its recent introduction into use in this country, and the limited number, comparatively, who have used it, have prevented its becoming generally known and appreciated, as it deserves. The statements which you will find in the accompanying pamphlet, were made by gentlemen of intelligence and experience, who have used the article in considerable quantities for several years, on various crops and soils; and who may therefore be supposed to understand its value. I am fully satisfied that the time is not distant, when it will be used by all who can obtain it—and that you will benefit the cause of agriculture, by bringing the subject before your readers.

Respectfully yours,

D. K. Minor,

No. 118 Nassau st., New York.

March 10th, 1843.

Mr. Edward Condict, of Morristown, New Jersey, under date July 25th, 1842, says:—

Sir,—In reply to your circular of the 20th inst., asking information relative to the effects of poudrette on crops during the years 1841 and 1842, I would state, that in the year 1841, I planted a field of corn, on about one-third part of which, I used the poudrette, putting a small handful, say somewhat less than a gill in each hill. The other part of the field I manured with good barnyard manure, a shovel full in each hill; the corn was planted about the 10th of May, and by the 20th of June, when the corn was dressed out the second time, that part where the poudrette was used, was more than as large again as the corn on the other part of the field; it also ripened a week or ten days earlier than the other; there was no perceptible difference in the yield. I also used it with good effect on buckwheat, potatoes and turnips, particularly the latter. In order to ascertain its effect on turnips, I sowed a strip in the middle of the piece, mixing the turnip seed and poudrette together, and sowing it broadcast, the effect was very perceptible, the turnips were larger and fairer, and were not disturbed by grasshoppers or any other insect. The soil on which the above mentioned crops grew, was light and somewhat inclined to sand, or gravel.

Early in October last, I used the poudrette on a loamy soil, somewhat inclining to clay, which I had prepared for wheat; there was no difference in the soil nor in its preparation, except that on about one-fourth part of it, after the wheat was sown, about 20 bushels of the poudrette to the acre, were also sown, broadcast; and the result is, that on harvesting that part where the poudrette was put, is much the heaviest grain, and but very little injured with the rust or mildew, while the *other* part of the field is considerably injured.

I am so well pleased with the poudrette, that I shall for the future discontinue the practice of using barn-yard manure in the hill. Yours, &c.,

Edward Condict.

Mr. Fullager, an experienced gardener in the employ of S. W. Anderson, Esq., at Devoes Point, speaks of its astonishing effects on water-melons as follows:

Devoes Point, Aug. 1st, 1842.

To D. K. Minor,—Sir: agreeably to your request in your circular, I have the pleasure of stating, that I have used the poudrette manufactured by your company, and have seen its good effects upon flowers and hothouse plants, but I noticed it *more* particularly when used for *melons*.

I planted water-melons in rather poor and gravelly soil, in 1841, by digging holes 18 inches wide, and put one quart of poudrette, mixed well with earth, in each hill, when the plants came up, I added one pint more of the poudrette to each hill, spreading it about three feet, and hoeing it well in. The effect was, that the vines grew vigorously, and in the small patch of three square rods of ground, I gathered 63 melons, weighing from 30 to 40 pounds each.

I gave some of the same seed to a neighbour of mine, who had planted it by mixing one shovel full of good yard manure to each hill,—the soil was the same as mine, and the largest melon produced in the patch, did not weigh over 18 pounds. When he discovered the difference, he at once made up his mind to subscribe for a share of your stock, which he has done, and is well pleased with his bargain. E. FULLAGAR.

The following letter is from Mr. Joseph Tyrrell, of Trenton, New Jersey, dated 9th of August, 1842, he says:

"I have used poudrette on my farm near this place, the last and present year: and am quite satisfied in regard to its virtues as a manure. My soil is a sandy loam. Last year I applied it to corn on rye stubble, ploughed under the previous fall, say a small handfull to each hill, at the time of planting, and in immediate contact with the seed. But I had not as much as was necessary for the whole piece. After the corn came up, and during its growth, the difference in the appearance of the part to which poudrette had been applied, and that which had none, was very great; the former was luxuriant in its growth, the colour a rich dark green, while the latter was rather sickly in appearance, and the plants less vigorous. The effect produced on the corn by the application of poudrette, was noticed by several of my neighbours who came to look at it. Being unfortunately sick at the time of cutting up and husking the corn, I was prevented from noticing the returns particularly, but I am satisfied that they were increased by the application of the poudrette, no other manure being applied to any part of the land. I have applied it to corn this year under similar circumstances, and so far as I can see at present, with most favourable results. I have also used it in my garden with great success. In March last, I planted six rows of early peas, four of the rows were manured with poudrette, sprinkled liberally over the seed. These came up five or six days before the others, they grew more luxuriant, came in blossom 10 days sooner, and yielded much more abundantly than those which had no poudrette. I have tested its merits as a manure for cucumbers and melons, and prefer it to any other for those articles. Early in the spring of the present year, I applied some to a strawberry bed, planted out in September last. I sprinkled it pretty freely on the bed, and worked it in with the prongs of a small hoe. Its effects were visible after the first shower of rain. The plants grew steadily and rapidly, and produced large and clean fruit."

AGRICULTURAL ANECDOTE.—A knowledge of the habits of animals is sometimes of great service, even in the saving of cities. James, in his recent history of the Black Prince, gives an amusing instance of this in the defence of Rennes, a town of Britanny, besieged by the Duke of Lancaster. In order to effect the surrender of the place, the Duke enforced a strict blockade, which soon reduced the garrison to great straits; but he knew they would hold out to the last extremity, and determined to try a trick of war. For this purpose, he drew off his soldiers, as if he had left the place, and formed an ambuscade in some bushes behind the town. He then caused a number of hogs to be turned loose in the plain, in the hope that the starving garrison would rush out for the prize. But they understood his trick, and turned it to their own advantage. They opened one of the sally-ports, and hung up a young sow by the hind legs to the lintel. She of course made a great outcry, and the hogs came rushing up to the place from whence the noise proceeded; she was then cut down and driven through one of the streets, and forced to keep up her music. The soldiers sprang up from their ambuscade, in order to try and if possible prevent this unlooked-for termination of their experiment; but James says, the hogs, with that intuitive perception of the way their masters do not wish them to go, which has ever marked their nature, went rushing tumultuously into the town, and afforded the garrison very seasonable relief.

BONE DUST, May be applied broadcast, as gypsum is sown; or placed in drills with the seeds, and this is, doubtless, the best way of using it. In this way, its influence is felt at once in the germination and quick growth of the plants, a thing of much consequence with the turnip and other plants, liable to be destroyed when young, by insects. In England, it is always, or generally, sown in drills with turnips; and in quantities varying from 10 to 30 bushels of dust per acre. It has been recommended to ferment the bone dust before sowing; and Mr. Colman, in his Report, says: "the most successful application of bone manure which I have known, was where they were mixed at the rate of about one part to eight, with leached ashes, or mould, and a fermentation brought on, before they were applied. They were then spread lightly in the furrow, where carrots were sown. The effects were most favourable, and surpassed a free dressing of barn manure, to the same kind of crop." Mr. C. does not name the quantity used per acre.—*Cultivator.*

For the Farmers' Cabinet.

The Silk Business.

Messrs. Editors,—I rejoice—no one more rejoices, at the information conveyed to me from all quarters of the Union, that the Rev. Henry Colman has undertaken an agricultural tour of observation in Europe. His reports from thence, will be looked for with more than common interest, and great good will, no doubt, be the result. I know of no one in whom the power of judicious observation is more inherent, and to whom the agricultural community could look with more confidence.

It is said, Mr. Colman intends to devote himself to the inquiry, how far it would be expedient to introduce the silk manufacture into the United States. In the south of France, he will have an opportunity of studying the subject in all its bearings—which, I must be permitted to remind him, are various and even conflicting; in my estimation, the profit of the employment consists not in dollars and cents, nor the facility and ease with which it might be carried on. It is true, that it might be there a fit business for "old people and children;" but in a nation like ours, we ought to be able to support our "old people and children" in a far different manner than they are provided for in the silk countries of Europe; and *that*—or I am much mistaken,—Mr. Colman will perceive with a glance. And let him observe, whether it be a fact, that the inhabitants of these countries are "imbecile in mind and body, short-lived, and cadaverous in appearance, *liable to natural malformations*, particularly of the hands and feet; and fit subjects of tyrannical and monarchical governments," as they have been represented to be. For myself, I do not hesitate to say, I prefer to see a man walk upright in the majesty of his nature, improving the soil of his country and his own mind, than to contemplate him confined to a space about four feet square, packed close in a manufactory, imbibing an atmosphere contaminated with floating and putrid animal effluvium, for 16 hours a day. But even this is better than to see this system inflicted on "old persons and children"—that appears to me about the perfection of cruelty, of which I do not like even to think. But Mr. Colman may have it in his power to remove all these difficulties, by showing us that the system *is* adapted to a country, boasting of hundreds of millions of acres of land, all crying out for improvement; thousands of miles of paths to be made straight through the wilderness, and the rough places made plain; with millions of intellectual beings to be reared and cultivated in the strength of body and mind, to undertake the glorious work—the renovation of about one half a world!

And I must be excused if I say, I doubt whether the silk business is to be carried on with that careless "odd times" service, which has been made its greatest recommendation; or that tending the worms and reeling the silk, is by any means so pleasing a task to the "female portion of our households," as has been represented. Judging from what I lately witnessed at a cocoonery at Cantwell's-bridge, Delaware, I should say, decidedly, it is quite the reverse; for here I saw two lovely girls sitting to the loathsome task of stirring cocoons in hot water, and catching the ends of the silk for reeling, in an atmosphere so putrid and disgusting, that I would not confine a brute to it!—and heard them complain, that after a long day's labour they seemed to have done nothing. These girls ought to be differently employed; in the beautiful "far West," their services would be a thousand times more valuable, in making happy homes for a very different *race of beings;* where the delicate lily would be exchanged for the rose of nature's painting, and no more be heard of sick headache and difficulty of breathing!

But my intention was, to introduce to your notice, the following extract from a late Address before the Agricultural Society of Fredericksburg, by J. M. Garnett, Esq., who has taken up the subject in his own lucid manner, and in my opinion, has made an end of it. He says:

"My last experiment I feel scruples in mentioning, lest I should excite in my hearers the same very annoying reminiscences which the word *multicaulis*, never fails to awaken in my own mind; but the statement of unsuccessful trials, is often as useful to us as of those which best succeed, and this fact encourages me to proceed. Know then, that having been amongst the afflicted with the multicaulis humbug, I sought to alleviate my sufferings by striving to make some use of those far-famed and treasure-bearing bushes, which, when the golden harvest time came that was to fill all our coffers to overflowing, I could neither sell nor give away. The periodicals that had been the chief spreaders of the epidemic, set to work, immediately after it had seized almost every body, to cheer our drooping spirits, by proving, that to retrieve all our losses, it was only forthwith to commence raising silk-worms—to this, therefore, many of us hastened as to a last hope, and amongst the rest, your humble servant: one of my daughters persuaded me to the undertaking, and at it we went, with the honest purpose

of doing our best. We bought three ounces of eggs, of two or three of the best varieties of the worms, which cost $17.50: they hatched at the usual time; began to spin without any night-feeding after nine o'clock, quite as soon as any which the papers reported to have been nursed night and day, but they were watched and fed with unremitted attention, from daylight until bedtime, so long as their precious health required particular care—indeed, I never saw more bestowed, even upon the infant children of a family. The produce of these three ounces of eggs, was only 13 bushels of cocoons, for which I have found no market anywhere near me, although I have been told, that I may possibly get three and a half or four dollars, if I will be at the trouble and expense of sending them, at my own risk, as far as Baltimore or Philadelphia; but if I could sell at the highest price, which is not probable, as our cocoons are only of medium quality, the balance, after deducting the first cost, would be $34 50; this pittance would be the whole earnings of my daughter, and at least six other persons, constantly employed for seven or eight weeks, in the hopeful business of nursing silk-worms, and taking care of their cocoons! Now, the least profitable of all the employments they could have pursued, would have brought them in more money, but then they would have lost the brilliant chance of taking rank amongst the disinterested and patriotic encouragers, of 'the silk culture of the United States!' who have been so outrageously puffed from one end of the Union to the other; although, in fact, like all other originators of *new* schemes to succeed in the *old* business of making money, patriotism had no more to do with their motives, than had any other honest project, solely for the promotion of their own individual interests! A due regard to this, is always laudable in every body, and as such, well deserves to be commended; but when we go so far as to ascribe it to 'love of country,' as has been done most profusely in this multicaulis and silk-worm business, I must for one, protest against any such gross abuse of language.

"I should have added, that in our experiment we employed more than double the labour anywhere reported as sufficient, by those who professed to know, and found it barely enough—that we occupied triple the time for killing the moths in the cocoons, either by steaming or the sun, when the thermometer ranged from 80 to 88°, yet many of the moths cut out afterwards—that with all the drying we could give the cocoons, their *odour continued offensive to the last*—and though last, not least, that the ants and the wasps, the rats and the mice, proved themselves to be enemies in almost every stage of the business, and against which it was extremely difficult to guard effectually." JACOB MYERS.

CRANBERRY MEADOWS.—Meadows that will bear good cranberries, will yield more profit than grass meadows. Two hundred bushels per acre, have often been obtained; and one man will harvest an acre at less expense than he will an acre of corn. A meadow, therefore, that will yield one-fourth of that quantity, will give more net profit than any acre of corn land, and save you the labour of planting, of tilling, and the cost of manure! Would it not be good policy to pay more attention to cranberry meadows? Nothing can be done to them at this season, unless we attempt to give them a top-dressing. This has been done in a few instances, and we cannot doubt that by a little attention, we could double the harvest on many of these valuable lots. Can it be doubted that a little coarse sand strown on the surface, would give a greater product on a cold meadow? Sand may be carried on and spread at this season, on many soft meadows, better than at any other.

Sand that has been saturated with the wash of the cow-yard, would be better than that directly from the pit. We hope some of our friends will look to this matter, and make some of their cranberry meadows more productive. It should not be forgotten, that flowing in winter and spring, has a most beneficial effect on the harvest. Meadows may be kept covered with water till late in May, and no doubt they would be improved by drawing the water off, and then flooding again, after a few days, as grass meadows are. By a little management of this kind, the June frosts would be prevented. Thousands of bushels were destroyed last season by the frosts of June.—*Mass. Ploughman.*

EXTRAORDINARY CROP OF OATS.—The New Genesee Farmer states, that Andrew Snider, of Henrietta, last season produced 446 bushels of oats, estimating them at the legal weight of 32 lbs. per bushel, on four acres of land, that is 111½ bushels per acre. The kind is called the barley oat; it is properly the Scotch potatoe oat.

Three bushels of seed were sown to the acre. They were sown the last week in April. The land had been in corn, in peas, and in potatoes the previous year. The part which had been in corn and that which had been in potatoes, had been manured for those two crops; on that which had been in peas, wheat-straw only had been ploughed in.

Management of Milch Cows.

I have read with much interest the remarks of your able contributors on stock, and especially on milch cows; yet there is one particular in the management of them, which seems to have been passed over unnoticed—that is *milking*. Perhaps there is no point of dairying treated with so much neglect and indifference, and attended with so great a loss to the dairyman, as milking. Not more than 25 years ago, it was considered a good lot of cows to produce 200 lbs. of cheese to the cow on an average, and the farmer who obtained that, was a skilful dairyman; and even at the present day, many keep along in the same old track, doing well enough, as they term it, while others obtain 500 pounds, and some have gone as high as 600 pounds, and over, besides a good quantity of butter. How is this difference to be accounted for? One reason I would give, is milking. A cow, to give a large quantity of milk, should have one steady hand to milk—one that can draw the milk quick and easy; care should be taken to milk the cow perfectly dry, or in other words, clean. Another important object is to milk at regular hours. In long days, cows should be milked and turned to pasture before sunset, that the time between milkings may be nearly equal.

Yet the practice of some is to work in the field as long as they can see, then drive up the cows and have them milked by inexperienced hands, and those too, who take no interest in the business, and then leave them in a close yard during the night. I have always noticed, that those who make an odd job of milking, never realize much profit from their cows. That there is a great difference in cows, I will admit, though I think there is more in the management of them, than in the quality; yet the farmer should be very careful in the selection of cows for the dairy. I find some of my best cows would be considered worthless, if they had different hands to milk them, and those, too, who were inexperienced in the business. I am often told by my neighbours, that I have some peculiar method of making more cheese from the same quantity of milk than they; and it is true there may be something to be considered on this point; but I never as yet, have found the secret of making butter and cheese without milk.—*Boston Cultivator.*

If the coming season shall not prove a good one for honey, it will not be attributable to the friends of the bees.—We observe that *thirteen* patents for hives were granted last year.

Warmth in feeding cattle.—A late English paper states, that at the Clitheroe agricultural meeting, a communication was read from Professor Playfair, which contained the following facts worthy the attention of every farmer in a cold climate:

"Heat is an equivalent for food, and by knowledge of this fact, we may economize the latter very considerably. We know that cattle fatten much more slowly in winter than in summer; the reason being, that part of the food is expended in the production of the necessary heat. Lord Ducie was kind enough to communicate to me an experiment of his, on 100 sheep in the open air, and another 100 in the same space, with sheds to retire into at pleasure. The first lot ate 25lbs. of Swedes (turnips) per day, the latter only 20lbs.; although this lot, with five pounds a day less, had gained on an average, two pounds per sheep, more than the other, at the conclusion of the experiment."

Imagination.—That great old writer, Thomas Fuller, relates a curious incident, which is truly characteristic, showing how fancy will put life into young limbs, and confirming the old adage, that "conceit is as good as a consumption." A gentleman, he says, having led a company of children beyond their usual journey, they began to be weary, and jointly cried to him to carry them—which, because of their multitude, he could not do, but he told them he would provide them with horses to ride on. Then cutting little wands out of the hedge as nags for them, and a larger one for himself, they mounted, and those who could scarce stand before, now full of mirth, bounded cheerfully home.

A Good Cow.

Our friend, W. P. H., of Manayunk, inquires in the last number, in relation to "the most approved anatomical forms of cattle,—particularly the milch cow." We clip from "The Toronto Cultivator," the following description of a celebrated Durham cow, that was the lion of the day, at the meeting of the Darlington Agricultural Society, in England.—Ed.

She's long in her face, she's fine in her horn,
She'll quickly get fat, without oil-cake or corn.

She's clear in her jaws and full in her chine,
She's heavy in flank and wide in her loin,
She's broad in her ribs and long in her rump,
Has a straight and flat back with never a hump.

She's wide in her hips and calm in her eyes,
She's fine in her shoulders and thin in her thighs.

She's light in her neck and small in her tail,
She's wide in her breast and good at her pail,
She's fine in her bone and silky of skin,
She's a grazier's without and a butcher's within.

Cultivating Ground without Manure.

We take the following article from the New York Sun, of the 31st ult.

The London Gardener's Chronicle, conducted by Professor Lindley, brings to notice in the following article, the recent discovery in Germany, of a plan of superceding manure in cultivation:

(Communication on the art of cultivating the ground without manure.) By F. H. Bickes, Frankfort, on the Maine, 1842, pp. 31.

Wonders will never cease! While our agriculturists are eagerly discussing the comparative advantages of particular soils, and studying the theory of manures as propounded by Sprengel and Liebig, a countryman of these distinguished professors comes forward to proclaim that their labours are vain; for, if we are to believe him, he has discovered the art of growing luxuriant crops on the poorest lands, and without any manure whatsoever; and the cost of the process is so trifling, that for the acre of wheat or maize, it does not exceed five pence sterling; and for rape, cabbage, &c., amounts to only about half that sum. At first we were disposed to consider such extraordinary pretensions as an effusion of quackery, and entitled to little or no credit; but our incredulity has been somewhat shaken by the numerous and respectable attestations which the author has appended to his pamphlet, and which tend to prove that his method has been practised with success, during the last twelve years, in various parts of Germany and Holland. Thus the certificates from Vienna, dated in 1829 and 1830, declare that Mr. Bickes's process, which would seem to consist in some preparation of the seed, "renders all dunging unnecessary, is applicable to the poorest soils, and to all sorts of plants, and imparts to them a wonderful degree of vegetation and fulness;" and they gave the results of the experiments in the Imperial garden of the Chateau, from which it appears that wheat raised from seed sown by Mr. B., had larger ears and more grains than that produced from unprepared seed; that the barley showed ears with four rows and a larger number of grains, while that from unprepared seed, had only two rows and a smaller proportion of grains on each stalk; and the Indian corn exhibited a larger number of much stronger and thicker heads.

At Bundingen, again, some plants of the sunflower, treated according to Mr. B's method, grew to the height of 10 to 11 feet, with woody stems of eight and a half to nine inches in circumference. Ten or twelve potatoe plants, of a large yellow sort, called Marburger, yielded each, on the average, 30 good sized tubers, with stem and branches seven feet long; and maize, which grew partly singly and partly in rows, had from two to five, and in some instances, as many as eight and nine heads. These crops were obtained in the garden of Count Isenburg; and we are further assured by the certificate, to which are attached the signatures of two burgomasters, the court gardener, a grand ducal counsellor, and other official personages, that they were raised in ground but partially dressed, and in the midst of tall weeds! The trials of this method in Holland, made in the summer of 1834, were attended with results not less astonishing: prepared wheat and rye, though sown thick, gave from 50 to 60, and even 80 stalks from one grain; and a plant of barley bore eight large ears. Buckwheat rose to four and a half and five feet: flax had four and five stems from one seed, and Indian corn grew from nine to ten feet in height, with four to five heads from a single corn. The green crops were equally luxuriant.

Liebig's Agricultural Chemistry, which has been republished in one of the cheap editions of the New World, teaches us that *ammonia* is the great stimulant to the growth of plants. At one of the late agricultural meetings in London, Dr. T. C. Jackson suggested that seeds might be coated with some gummy substance, and then rolled in guano, enough of which would readily adhere, to produce all the effects ascribed to those foreign prepared seeds,—the new plan being a secret.

A mere tea-spoonful of guano, applied to a newly struck rose cutting, of a few inches in length, had been sufficient, the following spring, to produce a bush of some six feet in height. It is the received opinion, that the nourishment of vegetable life is derived from the atmosphere.

THE FARMERS' CABINET,
AND
AMERICAN HERD-BOOK.

PHILADELPHIA, FOURTH MONTH, 1843.

In the early part of last month, the public curiosity was considerably excited by the appearance of an unexpected and remarkable comet, which is said to be "second in splendor only to the memorable one of 1680."

Sears C. Walker, in communicating some observations made upon it at the High School Observatory in this city, describes it as "one of the most remarkable that has ever appeared in the history of the world, for its physical peculiarities." According to the calculations of Encke, a noted German astronomer, the comet of 1680, in its nearest approach to the sun, was within

600,000 miles of its centre. The present comet, according to the calculations of our fellow-townsman, Professor Kendall, was on the 25th of second month last, when nearest the sun, but about 800,000 miles from its centre. Now the sun's semi-diameter is about 440,000 miles: both these comets then, must at one time have been considerably nearer to the surface of the sun, than the length of his semi-diameter! The earth's distance from the sun, is about 96,000,000 of miles: our late visitant therefore, when nearest, must have approached within $\frac{1}{210}$ part the distance that we ourselves are, from that great centre of our system! With what amazing velocity must it have been hurried on, to prevent its gravity from forcing it to the body of the sun! We dwell with astonishment on the inconceivable rapidity with which these bodies whirl round the sun, at the instant of their perihelion passage. That of the comet of 1680, was such, that if continued, it would have carried it ten times round the sun in one day: and the present comet, it is said, would have gone five times round the sun in the same time. In fact, it did go half round in about four hours—from two hours before, to two hours after reaching its nearest point.

Professor Kendall and S. C. Walker, have computed the elements of this comet with great care, and find they do not agree with those of any one on record: it is therefore, in all probability, to be hailed as a new visitant, within the limits of our system. Its train or tail, was very remarkable for its extent—stretching, according to Professor Loomis, of the Western Reserve College, Ohio, "over 45 degrees in length." "The nucleus, or head," continues the Professor, "was much smaller than might have been expected from its train—it was nearly circular—its outline ill defined, as usual, and increasing in brightness towards the centre."

Time was, when the appearance of so strange a visitor flaming through the heavens, spread terror and consternation abroad. That time, we trust, has in a great measure passed away. "Throughout the economy of nature," says Professor Olmsted, "all powers are so balanced, that each keeps the other in check." The same universal law which draws the stone to the earth and retains the moon in her place, exerts its influence over every motion of the comet, and having been given by the Supreme Intelligence, is a guaranty that order and harmony shall prevail, as well in the most remote regions of space, as within the limits of our own comparatively narrow system.

Professor Vince, in his Astronomy, says that "from the beginning of our era to this time, it is probable, according to the best accounts, there have appeared about 500 comets." It is remarked by a writer from Brown University, in a communication to the Providence Journal, dated the 9th ult., that of this number, "the orbits of about 140 have been computed. The orbits are nearly all of a parabolic form—that is, the path of the comet does not return into itself." In relation to the comet of 1680, which Sir I. Newton believed to have gone off in a parabola, never to return, Encke, the great German astronomer, "has found that a periodical return of 14,000 years, would correspond better with the observations, than the supposition that it had moved away in a parabola!"

"Three comets only,"—we quote again from the anonymous writer from Brown University—"are known to revolve in ellipses, and to return at regular intervals:—they are the following:

"1. Halley's, which has a period of 76 years. It passed its perihelion on the 16th of November, 1835, having arrived there within two days of the time assigned for its return, by Pontécoulant, a distinguished French astronomer. "It will not again return till the year 1911.

"2. Encke's, which has a period of about 1207 days. This was last seen in the spring of 1842. Its next return will be in the summer of 1845.*

"3. Biela's, having a period of about 6¾ years, or more exactly, 2461 days. Its last return was in 1839. The next will be in 1846."

We regret to learn, as we do from the U. S. Gazette, that "the only astronomical establishments in the U. States, capable of furnishing observations of any value by the side of the European, are the High School Observatory of this city, in charge of Professor Kendall, and the Hudson Observatory, under Professor Loomis, in Ohio." This, we think, ought not to be so. And we trust, that for the credit of our country, cause for the complaint, will not much longer be suffered to exist.

Our friend, H. L. Ellsworth, Commissioner of Patents, will please accept our thanks for his late Report to congress, showing the operations of his office during the year 1842. The labour and care incident to throwing before the country such an amount of interesting matter, only remotely connected with the duties of his department, show an industry and zeal in the cause, worthy of a high public officer. That part of the Report which has reference to the agricultural statistics of the country, particularly attracted our attention, and we regret our inability at this time, to draw more largely from it.

Our present population may be set down at about 19,000,000 of souls. From an estimate of crops for the past year, we learn that more than 441,000,000 of bushels of Indian corn—150,000,000 bushels of oats—102,000,000 bushels of wheat, and 135,000,000 bushels of potatoes, were harvested. Of these, Tennessee grew the greatest amount of Indian corn, to wit: about one-eighth of the whole. New York was the greatest producer of oats, having grown about one-sixth of the whole. Ohio was the greatest grower of wheat, her produce being about one-fourth of the whole; while New York again bears the palm in the production of potatoes. Her yield was more than 36,000,000 of bushels—nearly treble that of Pennsylvania, the next largest grower of this root—and more than one-third as many as all the other States. Mississippi is the greatest grower of cotton—South Carolina, of rice—Virginia, of tobacco, and Louisiana of sugar: and—which is well worthy of remark,—Vermont, Ohio and Connecticut, are the next greatest producers of this article!

---

* "The positions of this comet," says Gummere, in his Astronomy, "at its recent return in 1842, as observed on several evenings by Professor Kendall, in Philadelphia, were found to be within 30" of space of its positions, as given in Encke's Ephemeris, previously computed. This affords a striking evidence of the accuracy of the investigations and computations of its orbit and motion."

"The progress of improvement in agriculture," says the Commissioner, "though gradual, is yet steady. The importance of this branch of industry, is beginning to be more and more appreciated. The whole country is more or less interested in it, as it furnishes, besides what is consumed at home, at least three-fourths of all the exports of the United States." The feeling, with reference to the silk culture, is said to be settling down on a more assured basis. "While some, remembering only the days of the morus multicaulis speculation, smile, and turn with incredulity from its very mention, others have learned to discriminate between the solid and the imaginary, and are realizing, if not the golden dreams of past years, at least a fair profit," from which they are indisposed to be turned aside, even by the ridicule of their neighbours.

Very favourable results are reported from different quarters, of imperfect experiments made for the purpose of ascertaining, whether sugar could really be made with any probability of profit, from the corn-stalk. Indeed Professor Mapes, of New York, throws out an idea of the possibility, that the corn-stalk may eventually prove superior even to the sugar cane! But this we trust, need not alarm the great possessor of the Louisiana cane-brake.

The importance of the manufacture of lard oil, too, and the various purposes to which it is applied, claim an interesting notice in the Report. Some calculations that are given in relation to this subject, show that we are hardly aware of its magnitude. To the West, particularly, where hogs may be raised almost without limit, and with very little expense, it would seem as if the new purposes to which lard is to be appropriated, may open a demand for it, of such an extent, as we have now no idea of. A single firm in St. Louis, has worked up, in four months, more than 15,000 bushels of castor beans, yielding nearly as many gallons of oil, worth $50 per barrel. It appears among the possibilities of our day, that should a market be opened to us, the export of oil, pork, and lard, may become equal to that of cotton, our heaviest staple.

Thus, it would seem—to use the language of our brother editor, of the Farmer's Register,—"as one great production of our country declines in value, it is confidently anticipated that others, the culture of which is equally practicable, and no less profitable, will be gradually introduced." We know not how better to conclude these remarks, than in the language of the Commissioner: "That country which produces beef and pork to most advantage, and especially if wheat is also added, must excel in Agricultural profits."

By a private letter from Petersburg, Va., of the 14th ult., we learn that "our friend, E. Ruffin," late editor of the Farmer's Register, "is in South Carolina, actively engaged in the duties of his appointment. No situation could suit him better; for he is a warm admirer of that State, and the chief object of the agricultural Survey, is to develope its marl resources. He will doubtless confer great benefits on the South, by the energy and completeness with which he will discharge his duties. Every thing connected with *marl*, has irresistible attractions for him."

We gather from the Southern Agriculturist, that on the Cooper—the Ashley, and indeed on nearly all the rivers of the State, and far in the interior, inexhaustible beds of marl have been, or will be discovered. And in a letter from Edmund Ruffin to the editor of the Charleston Mercury, he shows his opinion of the value of the South Carolina marl, by recommending an immediate and free use of it by the farmers. He says, "every acre marled this year, will, by its effects shown, probably induce the marling of 20 the next, and 100 the year after." Indeed we shall be disappointed if the use of marl in the Southern States, does not open a new era in Southern agriculture.

"HISTORY OF THE GREAT REFORMATION

Of the sixteenth century, in Germany, Switzerland, etc., by J. H. Merle D'Aubigné, President of the Theological School at Geneva, and member of the 'Société Evangelique.' Published by James M. Campbell, 98 Chestnut Street, Philadelphia," in one vol. octavo., and at the very low price of one dollar, in fancy cloth.

This volume, which has been handed us by the publisher, has rendered our table more than ordinarily attractive, within the last few days.

To achieve great results by imperceptible means, is one law of the Divine Economy; and our author has brought before us a strong illustration of this truth, in the gradual, but almost unperceived workings of those great principles of the Reformation, which he has traced, we believe, with great fidelity, and certainly with no ordinary ability, and general satisfaction to the reader. While we feel disposed to demur a little at the impression left upon the mind in relation to the character of Erasmus,—and particularly that part of it which leads us to believe that "in him, Christianity was second to learning," we are delighted with the writer's description of the life and character, and labours of Luther. It cannot fail to rivet the attention, when once the subject is got hold of: "the high priest of Christendom, as he speaks from the balcony of his Basilica," is not a personage of higher import, than "the monk of Wittemberg," who is operating in the heart, and amidst the forests of Germany.

The book may be had of the publisher, or of Kimber and Sharpless, 50 North Fourth street.

AGRICULTURAL IMPLEMENT MANUFACTORY,

No. 196, Market street, two doors above Sixth, and two doors below the Red Lion Hotel, Philad.;

Where are manufactured, and for sale at low prices, Horse Powers and Threshing Machines, Rice's and other Fanning Mills, Corn Shellers, Straw and Hay Cutters, Horse Rakes, Ploughs of all kinds, and Harrows, Cultivators, Seed Planters, Cheese Presses, Churns, and every kind of Farming Implement generally in use. Also, every description of Implement made to order or repaired, by experienced workmen, and warranted. Slater's Patent Corn Sheller and Grinder; Plough castings of most kinds on hand.

EDWIN CHANDLER,

Agent for Agricultural Machines of every description.

"THE FARMER'S ENCYCLOPÆDIA

AND

DICTIONARY OF RURAL AFFAIRS:

Embracing all the recent discoveries in Agricultural Chemistry, adapted to the comprehension of unscientific readers, by Cuthbert W. Johnson; enlarged, improved and adapted to the United States, by a *Practical Farmer*, assisted by numerous scientific gentlemen, is now in course of publication by Carey & Hart, of this city."

The third and fourth numbers of this work have appeared since our last, and fully sustain the high character of the others before published.

Inquiry was made in our last number, in relation to the Hamburg, or Poland top-knot breed of fowls:—Michael Krouse, who stands in Market street, between Tenth and Eleventh, with his stall so richly loaded with fine poultry, and his glass cases so handsomely furnished with stuffed specimens of different breeds of fowls, can tell all about them; as can also Dr. Emerson, of this city.

SHORT ADVERTISEMENTS,

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportioh for each additional line. The money to be paid in advance.

POUDRETTE.

Arrangements have been made by the subscriber with D. K. Minor, of New York, for the sale of this valuable manure, as noticed on page 288. It may be obtained at the office of the Farmer's Cabinet, No. 50, North Fourth street, where we expect to keep a supply constantly on hand. Farmers, gardeners, and the truck growers in New Jersey, will now have an opportunity to avail themselves of an article, so much valued in Europe, and in the neighbourhood of New York, where it is manufactured. The price will be two dollars a barrel, where one or two only are taken—for three or more, it will be somewhat reduced.

Josiah Tatum.

☞ Joseph Willis, who has for several years acted as agent for our paper in Delaware and parts of Maryland, is *no longer authorised to receive monies* on our account. Such of our friends as have heretofore paid their subscriptions to him, can, by availing themselves of the kindness of post-masters, or by other means, readily communicate directly with this office. When remittances are made by mail, receipts will be forthwith returned.

C. P., a writer in the U. S. Gazette, who knows all about the weather, says, "there has not been so cold a month of March, for forty years, as the one just closed."

The quantity of rain and melted snow, which fell during the Third month, (March,) 1843, was nearly four inches and a half. ..... 4.415 inches.

Pennsylvania Hospital, Fourth mo. 1st, 1843.

CONTENTS OF THIS NUMBER.

	Page.
Irrigation.	265
Lime and Magnesia.	266
Rust in Wheat.	269
Peach Trees.—Sugar in Corn Stalks.	270
Corn Crops in Succession.	271
Plums.—Plants, &c., from Exploring Expedition.	272
Subsoil Plough.	273
Air-tight Stove.—A City Street.	274
Joint-stock Companies.	275
To Preserve Eggs.—Mississippi Almonds.—Potatoes.	276
Treatment of Domestic Animals.	277
Siliceous Stone—tripoli.	278
Mannington Limestone.	279
Grafting.—Onions, a protection from bugs.	280
Sussex Ox.	281
The "Small Farm" principle on a Large Scale.	282
A Profitable Cow.	283
The Tare, or Vetch culture.	284
Stock Raising.	285
Lime—"Golden Plough" relinquished.	286
The Honey Bee.	287
Poudrette as a Manure.	288
Agricultural Anecdote.—Bone Dust.	289
The Silk Business.	290
Cranberry Meadows.—Great Crop of Oats.	291
Management of Milch Cows.—Properties of a good cow.	292
Cultivating without Manure.—Editorial Notices.	293

THE FARMERS' CABINET,

IS PUBLISHED MONTHLY BY

JOSIAH TATUM, No. 50 NORTH FOURTH STREET, PHILADELPHIA.

It is edited by James Pedder and the Proprietor, and is issued on the fifteenth of every month, in numbers of 32 octavo pages each. The subjects will be illustrated by engravings, whenever they can be appropriately introduced.

Terms.—One dollar per annum, or five dollars for seven copies—*payable in advance.*

All subscriptions must commence at the *beginning* of a volume. Having lately struck off a new edition of one or two of the former numbers, which had become exhausted, we are now able to supply, to a limited extent, any of the back volumes. They may be had at one dollar each, in numbers, or one dollar twenty-five cents half-bound and lettered.

For seven dollars paid in advance, a *complete set* of the work will be furnished; including the first six volumes *half bound*, and the seventh volume in *numbers.* Copies returned to the office of publication will be neatly half bound and lettered at twenty-five cents per volume.

By the decision of the Post Master General, the "Cabinet," is subject only to newspaper postage: that is, one cent on each number within the state, or within one hundred miles of the place of publication out of the state,—and one cent and a half to any other part of the United States—and Post Masters are at liberty to receive subscriptions, and forward them to the Publishers under their frank—thus affording an opportunity to all who wish it, to order the work, and pay for it without expense of postage.

From the Steam-Press of the late Proprietors and Publishers.